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# ART SPACES, ART PLACES

## Examining Neighborhood Preferences of New York Arts Organizations

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### ABSTRACT

This report builds on and extends a diverse literature that examines the location patterns of the arts and creative industries through analysis of a database of arts nonprofit organizations from the New York State Cultural Data Project. We confirm the link between arts organizations and the urban core and creative economy, but challenge the assumption that arts tend to locate in ethnic and disadvantaged neighborhoods. By identifying key neighborhood attributes associated with distinct types of arts organizations, we can better identify potential sites conducive to nurturing additional artistic activity and inform strategies to engage organizations in neighborhoods that are underserved in the arts.

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# 1 INTRODUCTION

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There is a growing body of research that examines the location patterns of arts industries and occupations, suggesting that the presence of the arts creates positive social and economic impacts for neighborhoods, cities and regions. Artists and artistic activities contribute to regional economic development in myriad ways including providing employment opportunities, adding to the economic base, attracting visitors and providing services to other industries (Grodach et al. 2014; Markusen and Schrock 2006; Scott 2004). At the neighborhood level, the presence of artistic activities can increase social cohesiveness in diverse communities and revitalize economically depressed neighborhoods (Bailey, Miles and Stark 2004; Grodach 2010a; Grodach 2011; Markusen and Gadwa 2010; Stern and Seifert 2010). However, artists may also catalyze gentrification processes leading to the marginalization and displacement of vulnerable residents and businesses (Cameron and Coaffee 2005; Ley 2003; Zukin 1989). As a result, planners and policymakers are increasingly interested in where the arts thrive and how they can make a positive, measurable impact on the places in which they locate. This knowledge has become especially critical following the recent creative placemaking grant programs such as the NEA's Our Town and Artplace, which intend to stimulate positive community development outcomes through the arts.

This report analyzes the location patterns of arts organizations in neighborhoods across New York State and within New York City. We set out to answer three core research questions:

- RQ1: What neighborhood attributes are associated with the presence of arts organizations?
- RQ2: How do the location choices of different types of arts organizations and arts clusters vary by neighborhood attributes and city size?
- RQ3: What New York neighborhoods possess the capacity to support additional arts activity?

To answer these questions, we develop four objectives:

- OBJ 1: Identify New York neighborhoods that contain arts organizations and their economic, social, and physical characteristics (RQ1).
- OBJ 2: Determine if arts organizations with different disciplines, annual expenses, organizational age, and target audiences locate in neighborhoods with different characteristics (RQ2).
- OBJ 3: Determine which metropolitan areas in New York State contain the most arts organizations and whether certain areas are more likely to contain one type of arts organization over the other (RQ2).

- OBJ 4: Highlight specific neighborhoods that contain characteristics associated with one or more types of arts organizations that are likely to benefit from additional arts (RQ3).

This report builds on a diverse literature that examines the location patterns of the arts and creative industries. Economic geography research tends to use either industry or occupational data to determine the spatiality of industries constituting the cultural or creative economy and their relationship to other industry clusters and socio-economic factors (e.g. Florida, 2002; Markusen et al. 2008; Scott 2004). Research suggests that arts industries tend to cluster alongside finance, high tech and other advanced services industries in order to benefit from and contribute to the concentration of specialized knowledge and skills found in these ‘innovation districts’ (Currid and Connelly 2008; Grodach et al. 2014). Similarly, others show how a combination of artistic activity and consumer amenities attract a “creative class” (Clark 2004; Florida 2002).

Although the definition of the creative economy varies among researchers, this concept typically encompasses a much broader range of activities than what is commonly assumed as the arts. For example, Florida’s (2002) definition of the creative economy includes computer software specialists and lawyers as well as artists. As a result, these studies often do not differentiate artistic from creative industries or for-profit from nonprofit organizations. Although artists often work across sectors (Markusen et al. 2006), nonprofit organizations often articulate very different missions and values than for profit organizations, which could impact location preferences and neighborhood outcomes (Leslie and Rantisi 2006). Furthermore, this research tends to focus on regional location patterns and levels of economic development, subsequently eliding the arts’ impact on local communities.

Community developers and sociologists analyzing arts-driven revitalization and gentrification provide another perspective on where the arts and artists locate. Although researchers are not in agreement regarding the complex role the arts play in neighborhood change processes, case studies tend to find that artists and arts organizations are attracted to socio-economically diverse neighborhoods in the urban core because of low rents, historically interesting architecture and a desire to live in a diverse community (Ley 2003; Lloyd 2010; Zukin 1989). While much of the early work focused on the role of the arts in gentrification, more recent studies focus on how the arts bring community development to disadvantaged, often minority neighborhoods (Borup 2006; Carr and Servon 2009; Chapple and Jackson 2010; Grodach 2010a; Grodach 2011; Stern and Seifert 2010). Although these case studies provide rich analyses of the positive and problematic role the arts play in these disadvantaged and diverse neighborhoods, their findings are not generalizable to all places or to all types of arts organizations. Very few studies have attempted to study these relationships on a large scale and, those that have, focus on arts industries and not organizations (Grodach et al. 2014; Grodach, Foster and Murdoch III 2014).

In this report, we employ data from the Cultural Data Project (CDP) along with industry, demographic, and built environment measures to study the location patterns and

characteristics of arts organizations in New York. The results of our analysis produce three key findings:

1. In contrast to literature investigating the role of the arts as community anchors preserving a local, authentic culture (Borup 2006; Brown-Saracino 2004; Carr and Servon 2009) as well as literature suggesting the community development potential of arts organizations (Blessi et al. 2012; Chapple and Jackson 2010; Chapple, Jackson and Martin 2010; Grodach 2010a; Grodach 2011; Stern and Seifert 2010), we find a negative association between arts organizations and diverse, ethnic neighborhoods as well as poorer disadvantaged neighborhoods. This is especially the case for younger, smaller, locally focused organizations in New York City.
2. There is a strong relationship between the presence of arts organizations and the creative economy and neighborhood amenities, confirming past research examining the link between the arts and economic development (Clark 2004; Currid and Williams 2010; Grodach 2008; Grodach 2010b; Grodach et al. 2014; Markusen and Schrock 2006; Markusen et al. 2008).
3. There is strong relationship between the presence of arts organizations and urbanized neighborhoods that are home to young adults and singles. This substantiates the widely held assumption that the arts tend to locate in the densely populated urban core (Ley 2003; Lloyd 2010; Ryberg, Salling and Soltis 2012; Zukin 1989) and that arts organizations are closely linked with young professionals in the 'creative class' (Florida 2002). However, the urban associations are weaker or insignificant in models that include the industry measures. This indicates that the association between the arts and the industry measures is stronger and can even overpower these results.

These findings extend the economic geography literature by focusing on the neighborhood level to examine the relationship of nonprofit arts organizations to cultural industries and advanced services. Our results demonstrate a link between arts organizations and the larger creative economy and amenity rich places, but suggest that the link to advanced services primarily surfaces for certain types of larger arts organizations.

More importantly, these findings challenge our assumptions about the roles and impacts of the arts in community development and have important ramifications for cultural policy and arts-based community development initiatives. Most troubling, particularly for a city as diverse as New York, is that organizations that may potentially have the capacity to help stabilize struggling communities are less likely to locate there than in neighborhoods that are home to the young and affluent.

## 2 DESCRIPTIVE ANALYSIS OF ARTS ORGANIZATIONS

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To better understand the location patterns and characteristics of arts organizations in New York, this report relies on the New York State Cultural Data Project (CDP). The CDP is a national project that collects a wealth of data on arts and cultural organizations throughout the United States. The CDP includes information on organization finances, employment and volunteering, attendance, and other organizational aspects as part of an annual data profile. Participating organizations gain access to an online tool facilitating the generation of reports examining budgetary, marketing, and other strategic goals. It is a user-friendly, free service that arts and cultural organizations voluntarily participate in as a way to increase their ability to evaluate and monitor success.

For researchers, the CDP presents a unique opportunity to obtain data at the organization level that includes a level of detail previously unavailable in the United States. The National Center for Charitable Statistics (NCCS), another national database that includes data on arts nonprofits, does not collect information on organizations' constituencies, annual attendance numbers, or the specific financial information available from the CDP. Moreover, as is the case with the NCCS, the CDP provides location information for all organizations in the database, which can be linked to other databases with spatial information such as those maintained by the US Census Bureau. A weakness of the CDP, however, is that it only collects data on organizations that choose to participate. As a result, the CDP lacks the scope and representativeness of NCCS.

Using this database, we classify organizations into five disciplinary areas (Appendix A):

1. Museums, Art Galleries and Exhibition Spaces. Venues that display and sometimes sell works of art including visual arts, design arts, crafts, and photography.
2. Performing Arts. Organizations that present live performances of dance, music, opera/musical theatre and theatre productions.
3. Media Arts. Media arts include cinemas, nonprofits engaged in television or radio arts programming and printing and publishing organizations such as literary magazines.
4. Community and Advocacy Organizations. These organizations can include elements of each of the above; however, this category exclusively contains organizations that use artistic activities as a *means* towards a goal such as community empowerment, cultural understanding or youth development rather than a mission to produce, support or disseminate art.
5. Non-Art Organizations. This category contains 228 organizations that do not have an arts-centered focus. Examples of organizations in this category include the Bronx Zoo, Brooklyn Children's Museum and New York Hall of Science.

After categorization, we remove the non-art organizations. This results in a sample size of 1,346 organizations.

We further categorize organizations by total expenses, organization age and targeted audience using CDP variables:

- Total expenses. Expense size groups include three categories: small budget organizations (expenses below \$100,000), mid-sized organizations (expenses from \$100,000 to \$1,000,000) and large budget organizations (expenses over \$1,000,000).
- Organization Age. We divide organizations by years in operation using four groupings: less than ten years old, 11 to 25 years, 26 to 50 years and older than 50 years.
- Audience. Organizations self-select their constituencies by choosing one or more of the following categories: international, national, state, regional, local, urban, suburban and rural. As these categories are not mutually exclusive, we assign a single audience category based on the highest scale identified by the organization. We then grouped audiences into two categories: broad and local. Broad includes international, national, state and regional while local includes urban, suburban and rural.

Figure 1 shows the percent of New York State arts organizations within each discipline. Performing arts is by far the largest category with 790 organizations constituting nearly 60% of all organizations. There are 283 community/advocacy arts organizations, 153 museums, art galleries and exhibition spaces and 120 media arts organizations, accounting for approximately 20%, 11% and 9% of New York state arts organizations, respectively.

As detailed in Figure 2, most organizations, regardless of discipline, have annual expenses under \$1,000,000. However, one third of museums, art galleries and exhibition spaces exceed this amount. High expense organizations only constitute about 20% in the other art fields. One third of both performing arts and media arts have the lowest annual expenses (less than \$100,000) compared to 25% in Community and Advocacy Organizations and about 18% in Museums, Galleries and Exhibition Spaces.

Figure 3 displays the range of targeted audiences by discipline. Media arts has the broadest reach, with close to half of its organizations reporting an international audience and 22% of its organizations targeting national audiences. Organizations focused on local audiences make up just 13% of the media arts discipline. Just over half of all museums, galleries and exhibition spaces target international and national audiences. Museums focused on local and regional audiences are equally represented with about 20% of organizations falling into each category. In contrast, performing arts and community/advocacy arts organizations pursue a much more local audience.

Finally, Figure 4 exhibits the number and percentage of organizations in each discipline by four categories of annual years in operation. The categories reflect relatively young organizations (10 years or less) as well as those that are more firmly established (11-25 years, 26-50 years and

over 50 years). Museums, art galleries and exhibition spaces constitute the largest percentage of organizations that have been in operation for over 50 years (24%), while media arts organizations are the youngest with 32% of the organizations operating for 10 years or less. Community/advocacy arts organizations and performing arts follow similar patterns with the majority of organizations operating in the 11 to 25 or 26 to 50 age range.

Figure 1: New York State Arts Organizations by Discipline

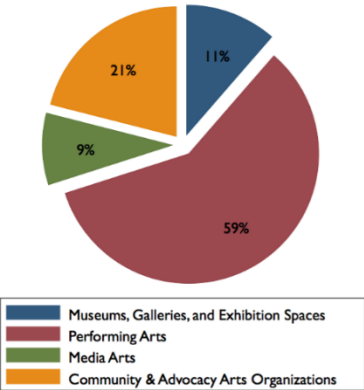
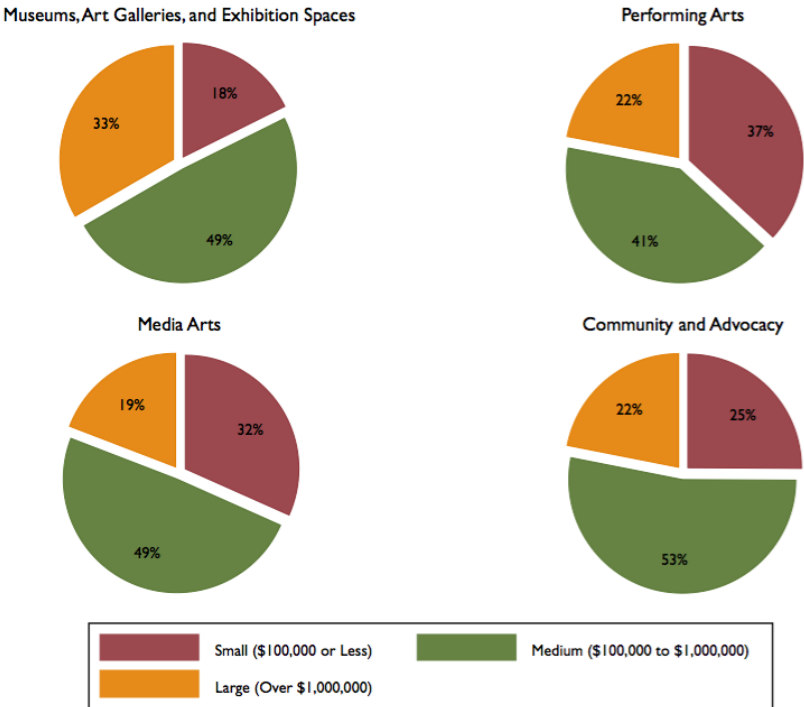
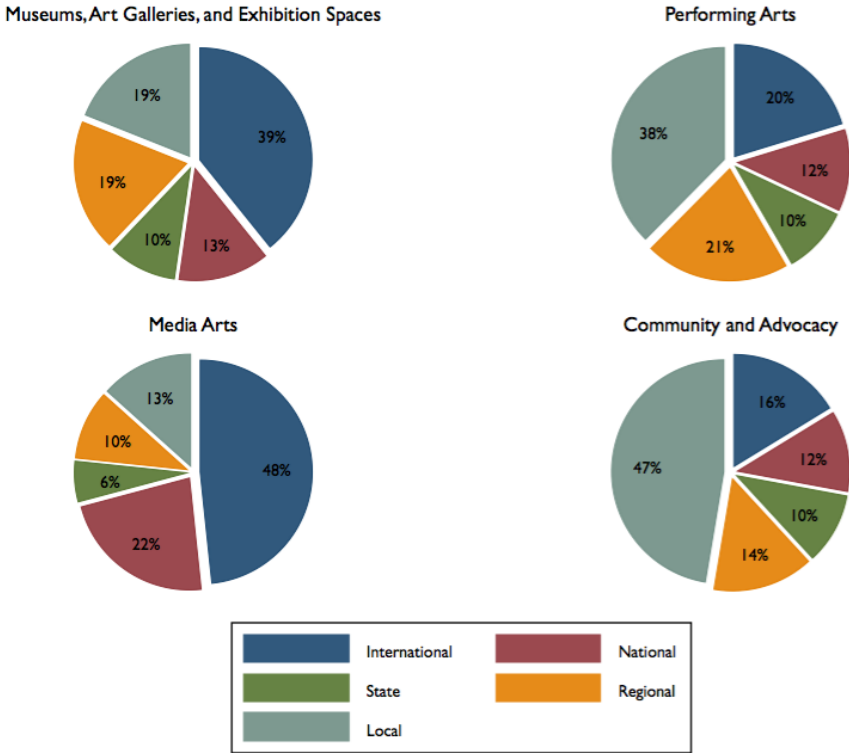


Figure 2: Annual Expenses and Artistic Discipline

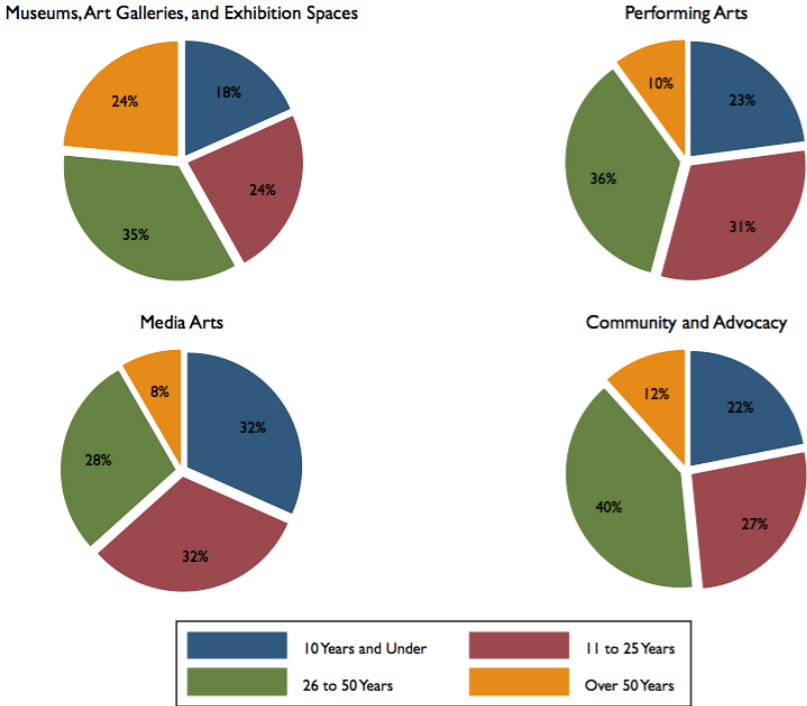




**Figure 3: Target Audience and Artistic Discipline**



**Figure 4: Organization Age and Artistic Discipline**



### 3 RESEARCH METHODS

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In order to accomplish the objectives outlined above, we use several different methods of statistical analysis and data management. We first construct our database by geo-coding and aggregating organizational data to census tract, zip code and New York City neighborhood level geographies to align with demographic and industry data. We then employ specific methods of statistical analysis such as principal component factor analysis and multivariate linear regression to analyze the relationships between arts organizational characteristics and neighborhood attributes. The following sections briefly describe each of these activities and methods, for more detail see the appendix.

#### 3.1 ORGANIZATION GEOCODING

After we categorized organizations in the New York cultural database, we identified their location in New York State. Geocoding is a process that takes individual addresses, determines their locations in terms of latitude and longitude and places them on a map as points. We geocode the addresses of New York State CDP organizations using ArcGIS.

Figure 5 displays the result of the geocoding process for our sample of arts organizations within New York State. The vast majority of arts organizations locate within the New York-Long Island Metro Area (85%). The remaining organizations are relatively dispersed along the interstates with Buffalo-Niagara Falls (5%), Syracuse (2%) and Albany-Schenectady-Troy (2%) containing most of the remaining organizations. Figure 6, which focuses solely on the New York-Long Island metro area, reveals that of the 1,129 organizations in the metro, the majority are located in Manhattan (64%), followed by the other four boroughs of New York City: Brooklyn (18%), Queens (6%), The Bronx (3%) and Staten Island (2%).

Geocoding not only allows us to conduct a visual, spatial analysis, it also allows us to link the organizations to census tract and zip code and neighborhood data used in the statistical methods described below.

Figure 5: The Location of Arts Organizations in New York State

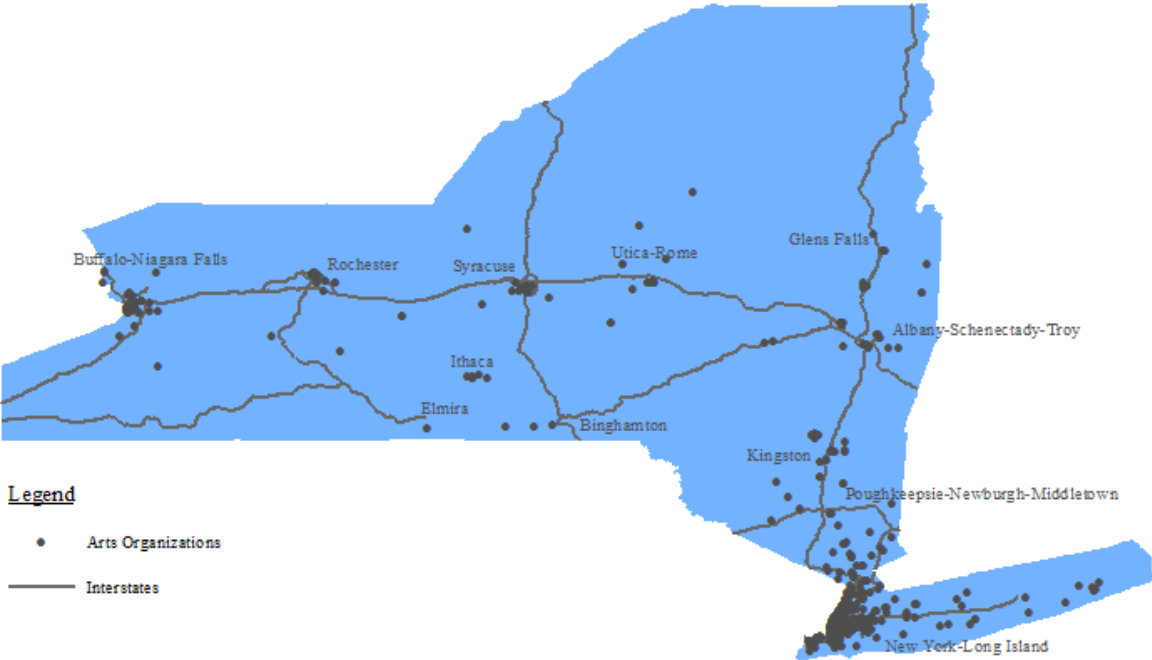
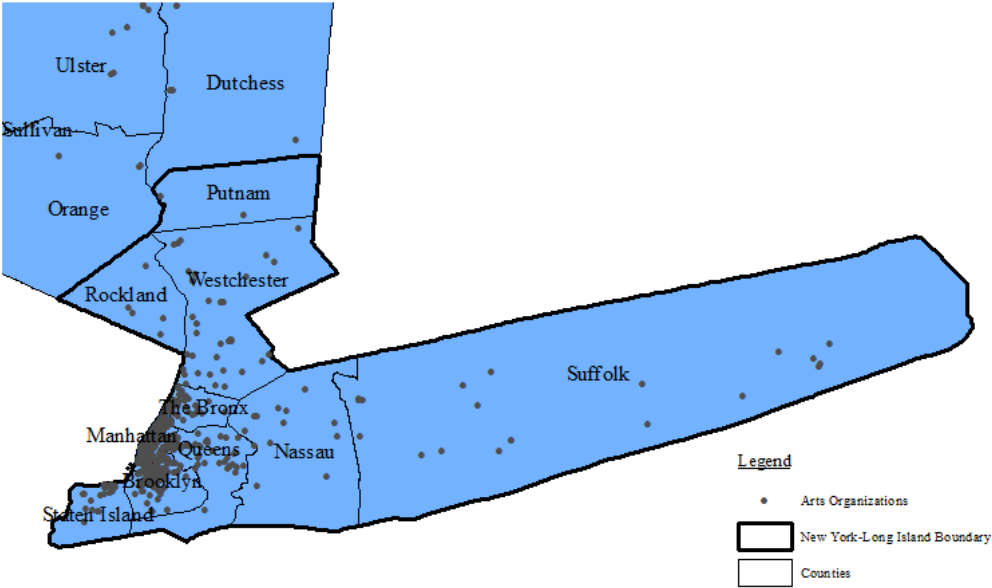


Figure 6: The Location of Arts Organizations in New York City Metro Area



### 3.2 PRINCIPAL COMPONENT FACTOR ANALYSIS

Principal component analysis (PCA) is the first statistical method we use to address the objectives of the project. PCA is a data reduction method that takes a large number of variables and, based on their relationships, groups them together to produce a smaller number of distinct factors. These factors measure a complex construct, such as a neighborhood type, which can be used in further analysis. This method is helpful for our purposes because we start with an extensive list of demographic and industry variables that are likely related and theorized to impact the location decisions of arts organizations. To produce robust statistical analyses, however, there must be a large number of cases (neighborhoods) relative to the number of variables. Thus, factor analysis is useful because the process reduces the number of variables to a few key constructs.

Previous research by Grodach et al. (2014) examines the relationship of arts industries to neighborhood characteristics. We follow that approach in this study to determine the neighborhood attributes to include in our factor analysis. The variables we include to capture neighborhood demographic characteristics can be grouped under five general headings (Appendix B):

- ‘urban’ variables that reflect the common assumption that the arts tend to locate in the urban core defined by an older housing stock, lower rents and a dense, walkable built environments
- ‘diversity’ variables representing diversity based on census categories for race (black), ethnicity (Hispanic), immigrants (foreign-born), non-native English speakers and non-family households
- ‘affluence’ variables indicative of upward mobility including high levels of education, income, rent and management occupations
- ‘disadvantage’ variables including poverty, unemployment, single-parent households and public assistance
- ‘young professional’ variables related to work and lifestyle at the neighborhood level because some arts organizations employ and attract a large number of young, single, ‘freelance’ individuals working at home or within their local neighborhood

We also include variables reflecting industries often associated with the arts (Appendix C):

- total establishments in knowledge-based industries such as finance, high technology, media and voluntary organizations that reflect the creative economy
- total establishments in creative industries such as design, architecture and commercial photography. We also include colleges, universities and professional schools in this category.
- total establishments in neighborhood amenities such as grocery stores, clothing stores, restaurants, bars (alcoholic), snack/juice bars (non-alcoholic) and others.

### 3.2.1 Neighborhood Demographics Analysis

The state and NYC neighborhood samples each produce four similar factors (see appendix, Tables D1-D4, for detailed factor scores). However, because these factors are based on different geographical samples, there are some key differences. At the state level, the factors are Disadvantaged Neighborhoods, Urbanized Ethnic Neighborhoods, Urbanized Young Professional Neighborhoods and Affluent Neighborhoods. At the city level, the factors are Disadvantaged Neighborhoods, Urbanized Neighborhoods, Ethnic Neighborhoods and Young Professional Neighborhoods.

At both the state and city level, the Disadvantaged Neighborhoods factor is defined by the percent unemployed, in poverty, single parent households, on public assistance and not in the labor force. The factor has a more moderate relationship with two diversity measures, the percent of black residents (for both state and NYC factors) and the percent Hispanic (NYC factors only). While not direct measures of disadvantage, strong correlations often exist between race/ethnicity and inequality.

Urbanized Ethnic Neighborhoods (state level), Urbanized Young Professional Neighborhoods (state level) and Urbanized Neighborhoods (city level) are defined by urban variables such as population density, the percentage of rental occupants, multi-unit housing and the percent that walk to work. Moreover, in all three factors the average number of rooms is negative, indicating the presence of smaller homes, which is consistent with a high percentage of dense housing. The city level factors Ethnic Neighborhoods and Young Professional Neighborhoods lack the association with urban variables. Thus, at the state level the urban variables are shared between two factors (Urbanized Ethnic and Urbanized Young Professional Neighborhoods) and at the city level they coalesce in a single urban factor (Urbanized Neighborhoods).

Urbanized Ethnic Neighborhoods (state level) and Ethnic Neighborhoods (city level) are both defined by diversity variables, including percent foreign born and non-English speaking (Urbanized Ethnic also includes the percent Hispanic). The state level Urbanized Ethnic Neighborhoods differs primarily in its strong association with the urban variables described above.

The Young Professional Neighborhoods at both the state and city level are associated with young adults and unmarried individuals indicating that these neighborhoods are attractive to young singles. Young Professional Neighborhoods at the city level are distinguished by the strong negative association with the percent not in the labor force, implying economically stable neighborhoods with large portions of the population working or actively looking for work.

An additional difference between the state level and NYC level analysis of neighborhood demographics is the Affluent Neighborhoods factor produced only at the state level. The factor is defined by average household income, average rent and the percentage of residents with at least a bachelor's degree and who occupy management positions. The factor also includes the percentage of residents who work from home suggesting that these neighborhoods may

include a high percentage of the 'creative class' distinguishing these neighborhoods from those that score low for the Disadvantaged Neighborhood factor.

### 3.2.2 Industry Analysis

The state and NYC samples are even more similar for the industry analysis. Both analyses produce three factors: Creative economy, Advanced Services and Neighborhood Amenities. At both the state and city levels, the creative economy factor is strongly associated with creative services such as architecture, graphic design and commercial photography. The factor also includes 'third places' such as bookstores and drinking establishments, several of the high tech and media measures and several neighborhood amenities such as restaurants and clothing stores. Creative services, information and knowledge industries and cultural consumption are all representative of the creative economy (Markusen et al. 2008).

The industry factor labeled Advanced Services is defined by financial, high tech and media/information industries (Sassen 2001). We label the third and final industry factor Neighborhood Amenities. This factor is defined by grocery stores and markets, clothing, shoe stores, restaurants and snack bars. Religious organizations are also found in this factor. All of these are common neighborhood amenities. Additionally, universities and colleges load moderately for this factor indicating that these neighborhoods may often surround educational institutions.

By reducing an extensive list of physical, social and economic attributes into key factors, principal component analysis allows us to categorize neighborhoods by distinguishing characteristics. We use these measures of neighborhood types to determine associations with arts organizations through mapping and in our regression models described below.

## 3.3 MULTIVARIATE LINEAR REGRESSION

Multivariate linear regression is a process that estimates a specified model of the relationship between several independent variables that are thought to have a measurable impact on a single dependent variable. For each independent variable the model produces a coefficient measuring the effect of a unit change in the independent variable on the dependent variable. For example, if an independent variable in a regression model has a coefficient of 2, it is inferred that a 1-unit change in the independent variable will result in a 2-unit change in the dependent variable. When estimating the coefficient for each independent variable, the other independent variables are held constant as a way to control for (or filter out) any effects that they collectively have on the dependent variable. Thus, the coefficient of each variable is the effect attributed only to the independent variable it is attached to while other effects are assumed to be held constant. These effects, however, are often referred to as associations rather than causes as regression in of itself does not answer the question of what comes first, the independent or dependent variable.

For this project, we are interested in capturing the association between the location of arts organizations and specific neighborhood characteristics. Moreover, we are interested in

generalizable results that can isolate the association of specific neighborhood characteristics and arts organizations regardless of other factors present in the neighborhood. For these reasons, multivariate linear regression is an excellent method to use in our analysis.

We specify a multiple regression model to examine the relationship of arts organizations to neighborhood characteristics, measured by our factor scores. The model for our sample of state neighborhoods takes the following form:

$$Y_i = \beta_0 + \beta_1 \text{Disadvantaged}_i + \beta_2 \text{UrbanizedEthnic}_i + \beta_3 \text{YoungProfessional}_i + \beta_4 \text{Affluent}_i + \beta_5 \text{CulturalEconomy}_i + \beta_6 \text{AdvancedServices}_i + \beta_7 \text{NeighborhoodAmenities}_i + \epsilon_i$$

The regression model for the New York City neighborhood takes the form of:

$$Y_i = \beta_0 + \beta_1 \text{Disadvantaged}_i + \beta_2 \text{Urbanized}_i + \beta_3 \text{Ethnic}_i + \beta_4 \text{YoungProfessional}_i + \beta_5 \text{CulturalEconomy}_i + \beta_6 \text{AdvancedServices}_i + \beta_7 \text{NeighborhoodAmenities}_i + \epsilon_i$$

For the equations, each factor score is included as an independent variable predicting the dependent variable Y. The  $\beta$ s represent coefficients and  $\epsilon$  is a random error term. For the state level regression we include a dummy variable ( $\beta_8 \text{NY-LI}$ ) equal to 1 when a neighborhood is located in the New York-Long Island metro area and 0 when located outside of it. This allows us to control for the strong presence of arts in the New York-Long Island metro. At the state level, our dependent variable (Y) is the total number of arts organizations in any given neighborhood. We examine the different disciplines, expense categories, target audiences and the number of organizations grouped by years in operation in our statistical analysis only for the New York City sample. See the appendix of the report for greater detail explaining these two samples.

## 4 RESULTS

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The results of our analysis produce three key findings:

1. In contrast to literature investigating the role of the arts as community anchors preserving a local, authentic culture (Borrupt 2006; Brown-Saracino 2004; Carr and Servon 2009) as well as literature suggesting the community development potential of arts organizations (Blessi et al. 2012; Chapple and Jackson 2010; Chapple, Jackson and Martin 2010; Grodach 2010a; Grodach 2011; Stern and Seifert 2010), there is a negative association between arts organizations and diverse, ethnic neighborhoods as well as poorer, disadvantaged neighborhoods. This is especially the case for smaller, fledgling organizations in New York City.
2. There is a strong relationship between the presence of arts organizations and the creative economy and neighborhood amenities, confirming past research examining the link between the arts and economic development (Clark 2004; Currid and Williams 2010; Grodach 2008; Grodach 2010b; Grodach et al. 2014; Markusen and Schrock 2006; Markusen et al. 2008).

3. There is strong relationship between the presence of arts organizations and urbanized neighborhoods that are home to young adults and singles. This substantiates the widely held assumption that the arts tend to locate in the densely populated urban core (Ley 2003; Lloyd 2010; Ryberg, Salling and Soltis 2012; Zukin 1989) and that arts organizations are closely linked with young professionals in the 'creative class' (Florida 2002). However, the urban associations are weaker or insignificant in models that include the industry measures. This indicates that the association between the arts and the industry measures is stronger and can even overpower these results.

The following sections discuss the State-level and NYC-level results that produce these findings. We discuss the implications of the findings in the conclusion.

#### 4.1 NEW YORK STATE NEIGHBORHOOD ANALYSIS

Table 1 displays the regression results for three geographies: 1) New York state, 2) the New York City-Long Island metro area and 3) neighborhoods outside the metro. For each geography we run two models: Model 1 includes only factors measuring demographic and physical neighborhood attributes and Model 2 includes these alongside the industry and amenity factors. This allows us to see the contribution each grouping of variables makes to the coefficient of determination ( $R^2$ ), a measure capturing the percent of the variation in the dependent variable that is explained by the independent variables, as well as how the inclusion of industry and amenity measures impact the associations commonly found between the arts and neighborhood demographic and physical neighborhood attributes.

At the state level, Model 1 suggests that arts organizations are strongly attracted to young professional and affluent areas and tend to avoid disadvantaged neighborhoods. The New York-Long Island indicator is positive and significant as expected. This coefficient indicates that neighborhoods in the NYC metro area have approximately three more arts organizations on average than those neighborhoods with arts that are located outside of the metro area. When industry factors are included in Model 2 at the state level, young professional and affluent neighborhoods remain key predictors of arts organization activity. Moreover, the creative industries and neighborhood amenities present even stronger relationships with the location of arts organizations. At the same time, arts organizations are not linked to the advanced services sectors.

There are important differences between state and regional level arts organization location characteristics. Based on Model 1, affluent and young professional neighborhoods are still a key determinant of where arts organizations locate. However, *outside* of the New York metro area the urbanized ethnic neighborhood factor is equally strong in its association with arts organizations. This suggests that the negative association between arts organizations and urbanized ethnic neighborhoods may be specific to the NYC metro area. This relationship loses significance though when the model includes the industry factors. Model 2 indicates that the creative economy factor is the strongest predictor of the presence of arts organizations for neighborhoods both inside and outside of the New York City metro area. In fact, this coefficient



is strongest outside NYC metro area neighborhoods. Neighborhood amenities also appear to be important to most arts organizations, especially within the NYC metro area. Neighborhoods populated by large shares of young adults continue to present strong relationships with arts organizations, regardless of metropolitan area. Surprisingly, advanced services, such as finance and media, do not appear to have any significant relationship with the presence of arts organizations. Overall, Table 1 highlights the positive association between the arts and the creative economy, neighborhood amenities and urbanized young neighborhoods as well as the negative association with disadvantaged neighborhoods.

**Table 1: Regression Analysis for New York State Arts Organizations**

| Variable                      | All NY State |          | NYC-Long Island Metro |          | Non NYC-LI Metros |          |
|-------------------------------|--------------|----------|-----------------------|----------|-------------------|----------|
|                               | Model 1      | Model 2  | Model 1               | Model 2  | Model 1           | Model 2  |
| Disadvantaged                 | -1.114*      | 0.251    | -0.0595               | 0.760    | -0.857*           | -0.059   |
| Urbanized Ethnic              | 1.033        | -0.150   | 0.139                 | -0.598   | 2.268***          | 0.935    |
| Urbanized Young Professional  | 5.660***     | 2.573*** | 6.742***              | 3.043*** | 2.558***          | 1.747*** |
| Affluent                      | 2.790***     | 1.090*   | 2.747**               | 1.098    | 1.690***          | 0.864*   |
| Creative Economy              |              | 5.751*** |                       | 5.623*** |                   | 6.561*** |
| Advanced Services             |              | 1.518    |                       | 1.504    |                   | 1.092    |
| Neighborhood Amenities        |              | 3.526*** |                       | 3.719*** |                   | 1.553*** |
| Located in NYC /LI Metro Area | 2.993*       | 1.372    |                       |          |                   |          |
| $R^2$                         | 0.444        | 0.731    | 0.447                 | 0.733    | 0.444             | 0.565    |
| $N$                           | 266          | 266      | 174                   | 174      | 92                | 92       |

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

## 4.2 THE LOCATION OF ARTS ORGANIZATIONS IN NEW YORK CITY

Figures 7-10 show the location of arts organizations mapped against the different types of neighborhoods across New York City. Figures 11-13 map arts organization location against the three industry factors. Each map breaks the concentration or strength of that type into five levels from weakest to strongest. Moreover, each map extrudes the neighborhoods based on how many arts organizations are located there. Thus, neighborhoods with more arts organizations have larger extrusions. As expected, arts organizations as a whole are highly concentrated in midtown and lower Manhattan and radiate out into portions of Downtown Brooklyn, Carroll Gardens and other northern Brooklyn neighborhoods as well as North Manhattan. These are areas that are highly urbanized and generally the most affluent and young professional areas in the city. They are also home to the largest share of creative industries and contain a wealth of amenities. Thus, these highlight the relationship the arts have to specific neighborhood characteristics and explain the reason so many arts organizations tend to locate in Manhattan.

As Figure 7 shows, arts organizations are concentrated in the most urbanized areas of the city—the Upper West Side, Lincoln Square, Midtown, SoHo, West Village and Downtown Brooklyn are examples. However, while it appears that these areas drive results, we see that in all boroughs arts organizations tend to locate in more urbanized neighborhoods. Similarly, the areas with the highest concentration of organizations for the most part have the strongest share of young professional presence. An exception is neighborhoods in the southern portion of Queens, such as Queens Village, Hollis, Richmond Hill, Rosedale and others portions that are strongly young professional, but contain far fewer arts organizations than Manhattan and Brooklyn neighborhoods (Figure 8).

Disadvantaged neighborhoods are concentrated in the Bronx, the northern part of Manhattan and along the border between Brooklyn and Queens (Figure 9). Although arts organizations are located in disadvantaged neighborhoods such as Mott Haven and Bushwick in Bronx and Brooklyn, there appears to be little relationship between arts organizations and neighborhood disadvantage overall. Rather, they concentrate in the affluent southern portion of Manhattan and in the relatively affluent northwest corner of Brooklyn.

Figure 10 clearly shows that arts organizations are less concentrated in areas with high ethnic populations than in areas with a low proportion foreign-born and non-English speakers. For example, in Brooklyn, the majority of the organizations are located outside of the southwestern neighborhoods such as Sunset Park, Borough Park and Besonhurst with strong ethnic populations. On the other hand, in Queens there are several organizations that are located in immigrant neighborhoods like Hunters Point and Jackson Heights. Despite the comparative lack of organizations overall, these could still provide important resources for these areas.

Figures 11-13 show the maps of the industry and amenities factors. Again, arts organizations tend to locate in the neighborhoods in Manhattan and Brooklyn with the highest concentration of creative industries and amenities (Figures 11 and 12). However, there are also outlier neighborhoods with high levels of creative industries, but no arts presence particularly on the south shore of Staten Island. This highlights a potential area to target for arts incubation.

The advanced producer services factor does not appear to be significantly associated with arts organizations except in portions of Manhattan. Yet, even here, arts organizations locate in neighborhoods in the top and bottom quintiles of advanced services, while in Brooklyn arts organizations are primarily located in neighborhoods with low levels of advanced services (Figure 13).

Figure 7: Quintiles of Urbanized Neighborhoods and Arts Organization Presence

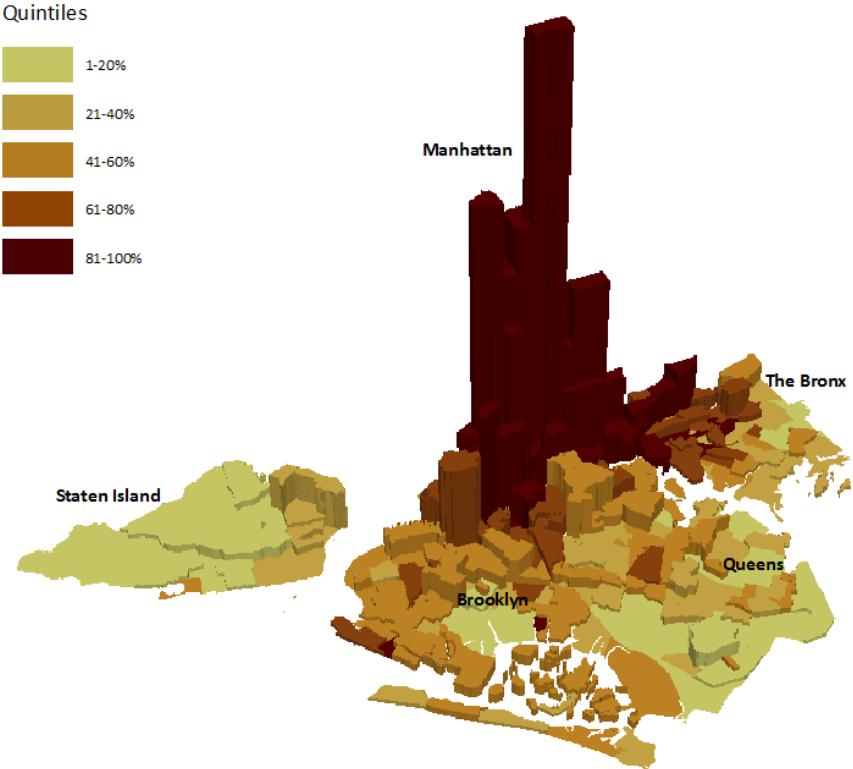


Figure 8: Quintiles of Young Professional Neighborhoods and Arts Organization Presence

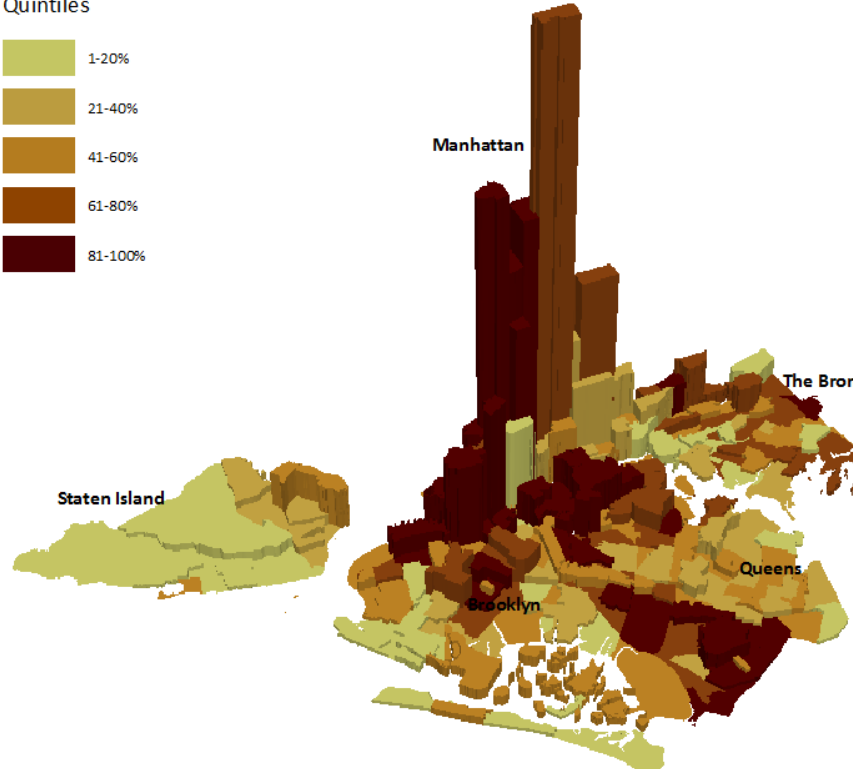


Figure 9: Quintiles of Disadvantaged Neighborhoods and Arts Organization Presence

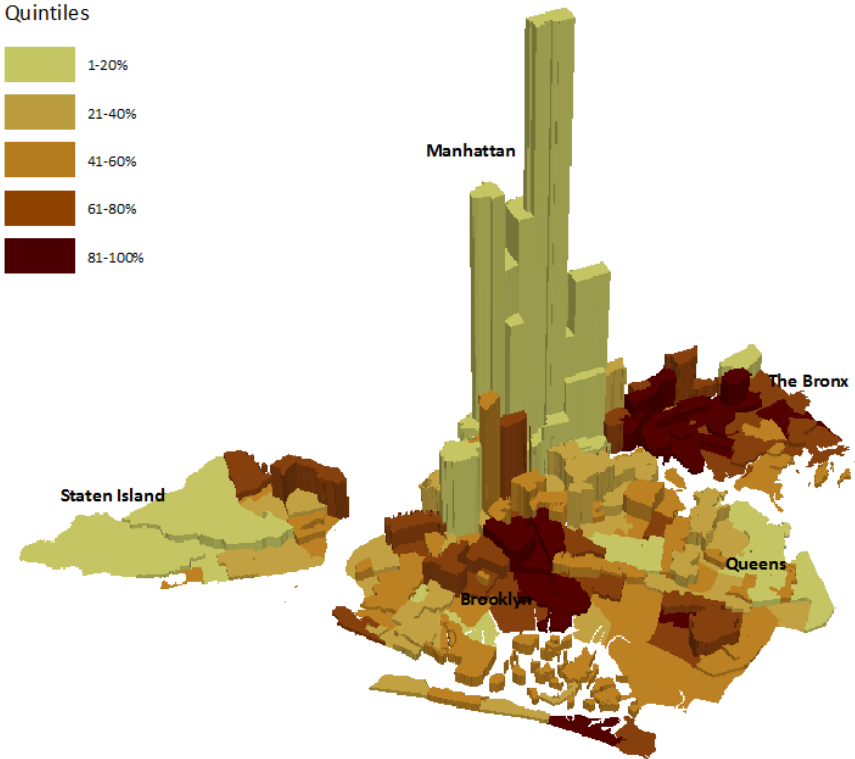


Figure 10: Quintiles of Ethnic Neighborhoods and Arts Organization Presence

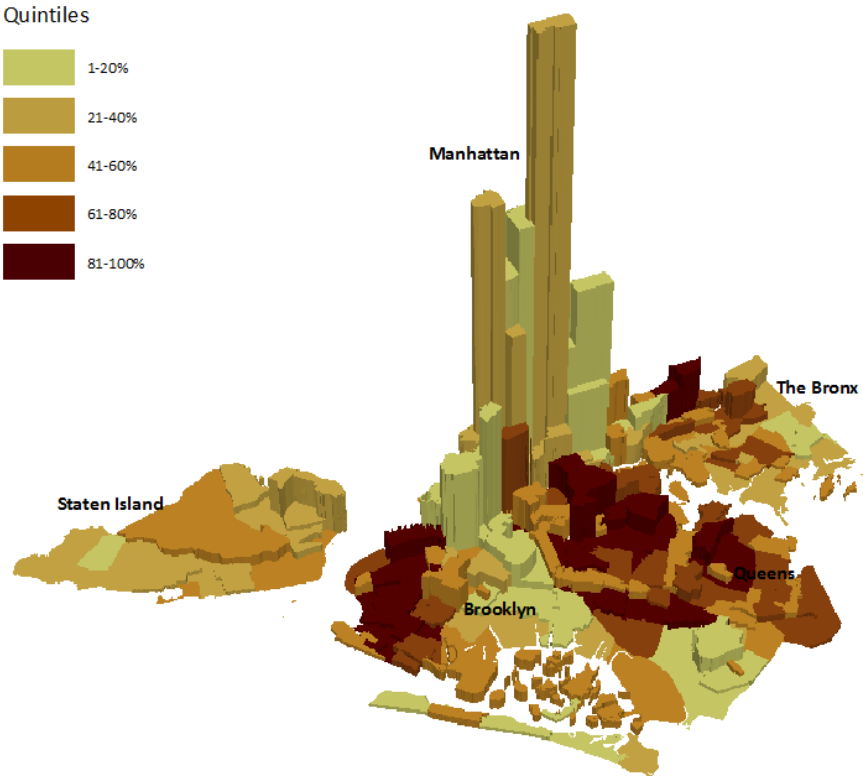


Figure 11: Quintiles of Creative Economy and Arts Organization Presence

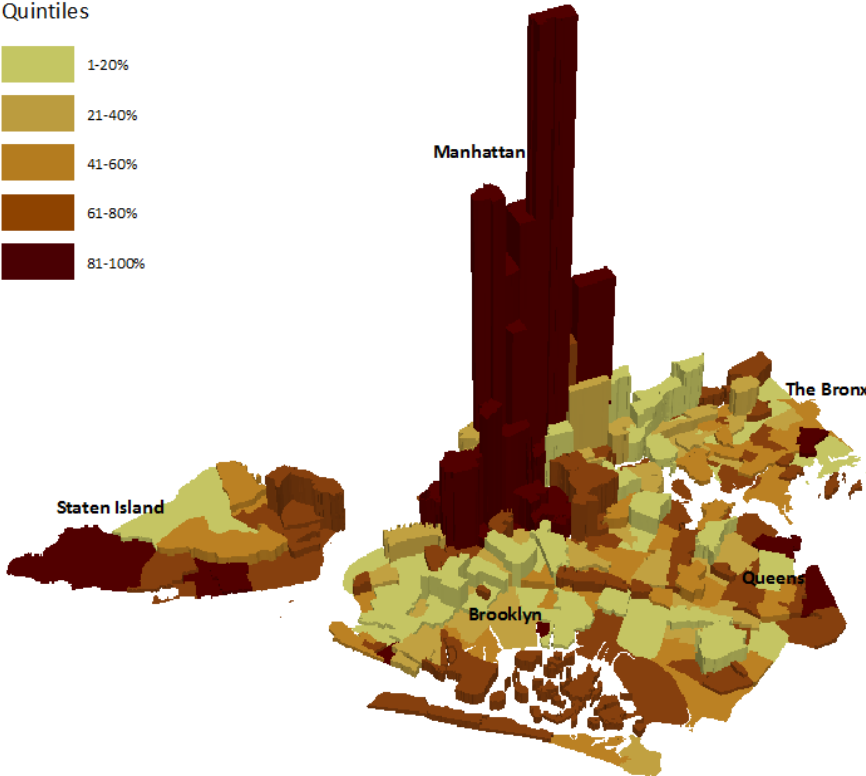
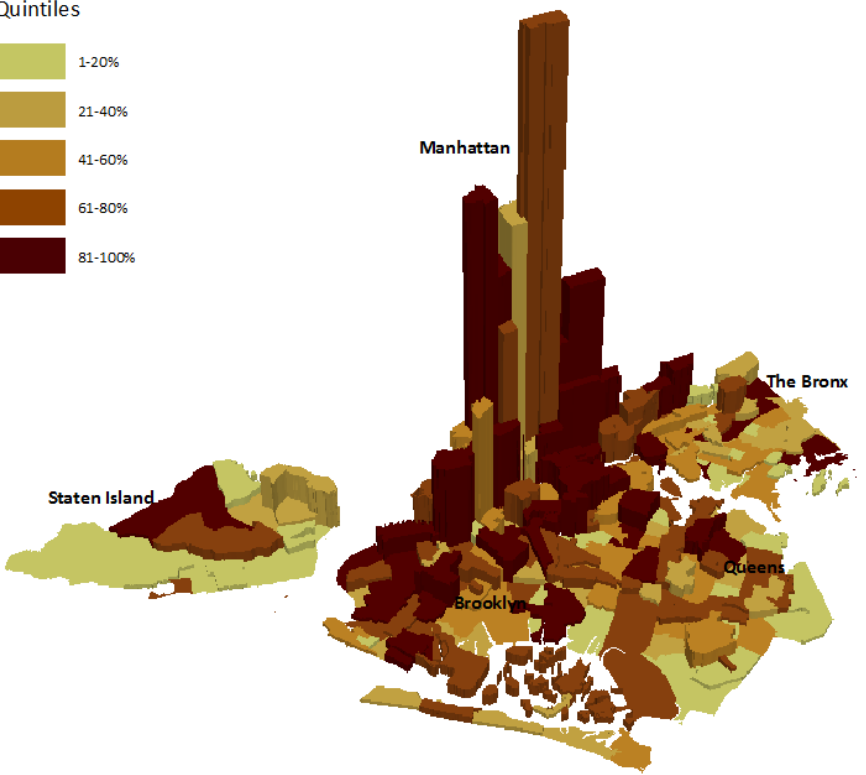
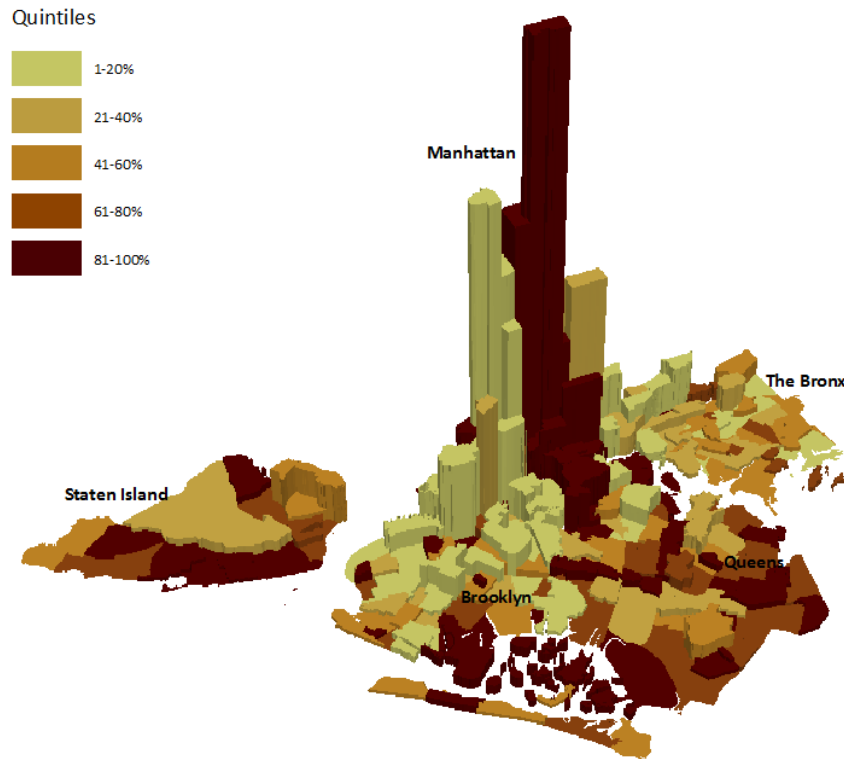


Figure 12: Quintiles of Neighborhood Amenities and Arts Organization Presence



**Figure 13: Quintiles of Advanced Services and Arts Organization Presence**

The maps of arts organizations and quintiles of neighborhood factor scores suggest that the relationships between arts organizations and neighborhood types for New York City are similar to the associations revealed by the state regression analysis. Generally, arts organizations are attracted to the same locations as the cultural industries: to urbanized and young professional neighborhoods and to areas with a high level of amenities.

However, the maps also display exceptions to these perceived patterns. Some arts organizations do locate in disadvantaged and ethnic neighborhoods. Furthermore, arts organizations may have different location patterns dependent on their programming, audience and expense size differences. As such, we conduct additional multiple regression analyses in order to develop a more nuanced understanding of these relationships.

### 4.3 NEW YORK CITY NEIGHBORHOOD ANALYSIS

The New York City neighborhood results complement the full state neighborhood sample by identifying broad trends as well more nuanced patterns of the location preferences of arts organizations. Similar to the state level, we find arts organizations are associated with the creative economy and neighborhood amenities regardless of discipline, expense size, organization age and audience. In addition, arts organizations have positive associations with urbanized and young professional neighborhoods and negative associations with ethnic and disadvantaged neighborhoods, although these relationships weaken with the inclusion of the industry measures. Adding to these broad findings, however, we find that associations with neighborhood demographics are strongest for younger and smaller organizations as well as for

organizations with a local audience focus. In contrast, we find that larger organizations with a broad audience focus are positively associated with advanced services and less strongly associated with neighborhood demographics.

Tables 2 through 5 display regression results for the New York City arts organizations based on four features: discipline, expenses, audience and years of operation. As at the state level, we analyze two models, one that concentrates on demographic features and a larger model that incorporates the industry factors. We can determine the extent to which neighborhood factors predict the location of arts organizations by referring to the coefficient of determination, or  $R^2$ , which is a measure of how well the model predicts the dependent variable. The term is quite high in all regressions with all factors, indicating that both demographic and industry factors explain equally large portions of the variance in the dependent variable (arts organizations). Thus, the high  $R^2$  in the full model is not driven by any single variable.

Table 2 examines the association between organizations of different discipline types and the demographic and industry factor scores. Model 1 suggests that arts organizations, regardless of discipline, tend to share similar location preferences. The strongest location pull for all disciplines is an urbanized neighborhood, although this type of neighborhood seems especially significant for performing arts and community/advocacy arts organizations. Arts organizations are also related to young professional neighborhoods. Disadvantaged neighborhoods and those with strong ethnic populations have negative relationships with arts organizations regardless of discipline.

However, when we incorporate industry factors into the model, we see more nuanced location preferences for the disciplines. In the full model, only performing arts organizations are clearly associated with urbanized neighborhoods. Performing arts and community and advocacy organizations continue to hold negative associations with ethnic neighborhoods and favor professional neighborhoods. Although neighborhoods high in creative economy industries such as graphic design and architecture attract all types of arts organizations, museums and galleries and media art organizations hold especially high associations. In contrast, neighborhoods with advanced producer services, such as finance and media, are also home to community and advocacy organizations. Finally, all disciplines have positive, significant relationships with neighborhoods high in local amenities such as restaurants and retail.

**Table 2: Regression Analysis for New York City Arts Organizations by Discipline**

| Variable               | Museums, Galleries and Exhibition Spaces |           | Performing Arts |           | Media Arts |           | Community and Advocacy |           |
|------------------------|--|-----------|-----------------|-----------|------------|-----------|------------------------|-----------|
|                        | Model 1                                  | Model 2   | Model 1         | Model 2   | Model 1    | Model 2   | Model 1                | Model 2   |
| Disadvantaged          | -0.3006**                                | 0.0064    | -0.3575***      | -0.0670   | -0.3046**  | -0.0314   | -0.3535***             | -0.0348   |
| Urbanized              | 0.3764***                                | 0.0185    | 0.4746***       | 0.1614*   | 0.3963***  | 0.0461    | 0.4575***              | 0.1022    |
| Ethnic                 | -0.1777**                                | -0.0537   | -0.2046***      | -0.1144*  | -0.2403*** | -0.1485** | -0.1985***             | -0.1094** |
| Young Professional     | 0.1986**                                 | 0.0375    | 0.2231***       | 0.1085**  | 0.2325**   | 0.0755    | 0.2179***              | 0.0891*   |
| Creative Economy       |  | 0.7986*** |                 | 0.4640*** |            | 0.7225*** |                        | 0.4931*   |
| Advanced Services      |  | 0.1510**  |                 | 0.3991    |            | 0.0814    |                        | 0.4339*   |
| Neighborhood Amenities |  | 0.2561**  |                 | 0.2306**  |            | 0.3299*** |                        | 0.2956**  |
| R <sup>2</sup>         | 0.3031                                   | 0.7655    | 0.4447          | 0.6687    | 0.3617     | 0.7687    | 0.4212                 | 0.6876    |
| N                      | 189                                      | 189       | 189             | 189       | 189        | 189       | 189                    | 189       |

\* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Table 3 displays regressions based on annual expense size. Model 1 reflects similar patterns as the regression focused on disciplinary types, again suggesting that arts organizations share location preferences regardless of expenses. However, the full model indicates there are distinct location differences. Small budget arts organizations with annual expenses of less than \$100,000 are more likely to locate in urbanized, young professional neighborhoods strong in creative economy industries and neighborhood amenities. Surprisingly, these small organizations are the least likely to operate in disadvantaged or ethnic neighborhoods. Mid-sized organizations are attracted to young professional neighborhoods, especially those with creative economy industries and tend not to locate in ethnic neighborhoods. Larger organizations are more likely to locate in neighborhoods with advanced services and creative economy industries. All organizations regardless of expense size tend to locate in neighborhoods with neighborhood amenities.

**Table 3: Regression Analysis for New York City Arts Organizations by Expense Size**

| Variable               | Expenses <100K |            | Expenses 100K-1M |           | Expenses >1M |          |
|------------------------|----------------|------------|------------------|-----------|--------------|----------|
|                        | Model 1        | Model 2    | Model 1          | Model 2   | Model 1      | Model 2  |
| Disadvantaged          | -0.3362***     | -0.2104**  | -0.3422**        | -0.0010   | -0.3551**    | 0.0001   |
| Urbanized              | 0.4962***      | 0.2879***  | 0.4552***        | 0.0804    | 0.4175***    | 0.0598   |
| Ethnic                 | -0.2395***     | -0.2239*** | -0.2087***       | -0.0871*  | -0.1752***   | -0.0627  |
| Young Professional     | 0.2507***      | 0.1577***  | 0.2544***        | 0.1041**  | 0.1544**     | 0.0330   |
| Creative Economy       |                | 0.3554**   |                  | 0.6803*** |              | 0.4739** |
| Advanced Services      |                | -0.0453    |                  | 0.3565    |              | 0.5936*  |
| Neighborhood Amenities |                | 0.3022**   |                  | 0.2604*** |              | 0.2217** |
| R <sup>2</sup>         | 0.4795         | 0.6311     | 0.4326           | 0.7959    | 0.3550       | 0.6996   |
| N                      | 189            | 189        | 189              | 189       | 189          | 189      |

\* p<0.05; \*\* p<0.01; \*\*\* p<0.001



Table 4 looks at the relationships between neighborhoods and an organization’s audience. We group organizations into two categories, those with ‘broad’ constituencies (reporting international, national, state and regional audiences) and those that report serving a local audience. Again, Model 1 suggests parallel location preferences. However, similar to the expense size analysis, Model 2 indicates that locally-focused organizations prefer urbanized and young professional neighborhoods while organizations serving broader audiences gravitate towards advanced services. Both types of organizations, however, are attracted to areas with neighborhood amenities and creative economy industries.

**Table 4: Regression Analysis for New York City Arts Organizations by Audience**

| Variable               | Broad Audience |           | Local Audience |           |
|------------------------|----------------|-----------|----------------|-----------|
|                        | Model 1        | Model 2   | Model 1        | Model 2   |
| Disadvantaged          | -0.3865***     | -0.0597   | -0.3296**      | -0.0349   |
| Urbanized              | 0.4869***      | 0.1157    | 0.4744****     | 0.1588*   |
| Ethnic                 | -0.2168***     | -0.1097** | -0.2227***     | -0.1357** |
| Young Professional     | 0.2272***      | 0.0794**  | 0.2544***      | 0.1427**  |
| Creative Economy       |                | 0.6416*** |                | 0.4310*** |
| Advanced Services      |                | 0.3318*   |                | 0.4377    |
| Neighborhood Amenities |                | 0.2923*** |                | 0.2368**  |
| R <sup>2</sup>         | 0.4851         | 0.8144    | 0.4479         | 0.6748    |
| N                      | 189            | 189       | 189            | 189       |

\* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Table 5 exhibits the relationship between neighborhood types and arts organizations categorized by years in operation. As Model 1 depicts, only the oldest organizations, those in existence over 50 years, lack a relationship with young professional neighborhoods. When industry factors are included, we find other differences among organization ages. The youngest organizations (less than ten years in operation) are the only type possessing a strong, positive relationship with urbanized neighborhoods. These organizations also have the strongest, negative relationship with ethnic neighborhoods and a positive, significant relationship with young professional areas. Older organizations, on the other hand, tend to have weaker associations with all demographic factors, but remain positively associated with industry measures. Again, neighborhood amenities and the creative economy factor remain positive and significant across organizational types. Similar to results analyzing organizations by annual expenses, the negative association with the ethnic factor and the positive association with urban and young professional neighborhoods decrease with age as organizations become more established. The results for advanced services are mixed with older (over 50 years) and young (11 to 25 years) organizations strongly associated with advanced services, while middle (26 to 50 years) and very young (10 years or less) organizations are not significantly associated with these industries.

**Table 5: Regression Analysis for New York City Arts Organizations by Years in Operation**

| Variable               | Organization Age<br>50 years plus |           | Organization Age<br>26 to 50 years |           | Organization Age<br>11 to 25 years |           | Organization Age<br>10 years or less |           |
|------------------------|-----------------------------------|-----------|------------------------------------|-----------|------------------------------------|-----------|--------------------------------------|-----------|
|                        | Model 1                           | Model 2   | Model 1                            | Model 2   | Model 1                            | Model 2   | Model 1                              | Model 2   |
| Disadvantaged          | -0.4116**                         | -0.1383   | -0.3506***                         | -0.0245   | -0.3382**                          | -0.0091   | -0.3258***                           | -0.0986   |
| Urbanized              | 0.3756***                         | 0.0740    | 0.4640***                          | 0.0975    | 0.4486***                          | 0.0908    | 0.5213***                            | 0.2523*** |
| Ethnic                 | -0.1895**                         | -0.1217   | -0.1958***                         | -0.0839*  | -0.2195***                         | -0.1106** | -0.2183***                           | -0.1569** |
| Young Professional     | 0.0979*                           | -0.0048   | 0.2034**                           | 0.0558    | 0.2518***                          | 0.1152**  | 0.2952***                            | 0.1921*** |
| Creative Economy       |                                   | 0.3530*** |                                    | 0.6572*** |                                    | 0.5832**  |                                      | 0.4044*** |
| Advanced Services      |                                   | 0.4287*   |                                    | 0.3240    |                                    | 0.4044*   |                                      | 0.2474    |
| Neighborhood Amenities |                                   | 0.2611**  |                                    | 0.2745*** |                                    | 0.2570*** |                                      | 0.2495*** |
| R <sup>2</sup>         | 0.3560                            | 0.5517    | 0.4179                             | 0.7551    | 0.4272                             | 0.7300    | 0.5127                               | 0.6613    |
| N                      | 189                               | 189       | 189                                | 189       | 189                                | 189       | 189                                  | 189       |

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

## CONCLUSION

This report examines the location patterns and neighborhood attributes associated with different types of nonprofit arts organizations in New York State and New York City. Our primary aim is to determine which types of neighborhoods are associated with specific kinds of arts organizations. We also set out to identify types of neighborhood that may support further artistic activity. The location patterns of arts organizations matter to planners and policymakers due to research suggesting that the arts produce positive economic and social outcomes in neighborhoods and cities. We conclude with a discussion of our findings as they relate to each of the three research questions driving this study.

*RQ1: What neighborhood attributes are associated with the presence of arts organizations?*

The New York City neighborhood results complement the full state neighborhood sample by identifying broad trends as well more nuanced patterns of the location preferences of arts organizations. Both analyses demonstrate that certain industries matter for all arts organizations. Neighborhood amenities, including restaurants, bars and retail, are key predictors of the presence of arts organizations. Indeed, the detailed city regressions suggest that the co-presence of amenities is consistent across organizational types, ages and sizes. The two samples also indicate that a strong, positive relationship exists between creative economy industries and arts organizations across neighborhood types and metropolitan areas. However, the New York City neighborhood results suggest that these industries are particularly important to the visual and media arts as well as to larger, more established organizations. In other words, these types of arts organizations in particular tend to cluster with arts industries such as architecture, graphic design and commercial photography.

We also find more context specific results that provide nuance to associations between the arts and advanced services discussed in the economic geography literature. Established, large budget organizations exhibit a strong, positive relationship with advanced services. Interestingly though, community and advocacy organizations demonstrate the strongest relationship with advanced services. This finding suggests that these organizations, which often fund and provide support for artists and arts organizations, require close proximity to other financial establishments.

*RQ2: How do the location choices of different types of arts organizations and arts clusters vary by neighborhood attributes and city size?*

The vast majority of arts organizations represented in the CDP database are located in New York City. As CDP annual reporting is conducted on a voluntary basis or is contingent upon particular funding requirements, we do not know whether the sample is indicative of actual state-wide distribution of arts organizations or if the database includes a disproportionate share of New York City based organizations. As such, we are not able to adequately assess how different types of arts organizations vary by city size.

However, since the CDP includes data on a substantial number of organizations within New York City, we are able to analyze the relationship between different types of organizations and a range of neighborhood attributes. Although there is some consistency with industry factors, we see much more variability among arts organizations and the demographic and built environment factors. In fact, only smaller organizations seem to have significant relationships with particular neighborhood attributes. Industry presence is the key factor in explaining the location patterns of larger, more established organizations as discussed above. This is surprising considering that the full state sample suggests that urbanized neighborhoods with a higher percentage of young singles and nonfamily households are strongly associated with arts organizations, especially within the New York City metro area. Although the New York City sample splits this factor into two - urbanization and young professional neighborhoods - these two neighborhood types reflect similar relationships with the same types of arts organizations. Surprisingly, the attraction to urbanized, young professional neighborhoods characterized with high density, rental housing, multifamily homes, walkability, pre-war housing and young singles, tends to be limited to young, small or performing arts organizations targeting local audiences. We do not find this trend with any other organizational type.

We see similar patterns with ethnic and disadvantaged neighborhoods. The full state sample does not indicate any statistical relationship with these types of neighborhoods. However, there are some surprising results emerging from the New York City neighborhood sample. With the exception of museums, galleries and exhibition spaces, all organization types have a negative relationship with ethnic neighborhoods. Further, this relationship grows as the organization becomes smaller and younger. Interestingly, the smallest organizations, with annual expenses of less than \$100,000, are the only organization type to have a strong, negative relationship with disadvantaged neighborhoods.

In some ways, these findings may be interpreted as supporting the literature on the role of the arts in gentrification. Arts organizations exhibit strong relationships with creative services industries, local amenities and neighborhoods characterized by large shares of young adults, nonfamily households and older housing stock suggesting their role in neighborhood turnover and upscaling. Our results confirm these relationships yet suggest that not all types of arts share these same location preferences or with the same intensity. Organizations that produce performing arts programming, are smaller, younger, or serve local audiences seem much more influenced by neighborhood demographic and built environment attributes and locate in urbanized, young professional neighborhoods. Larger, more established organizations, those in media, visual arts or community and advocacy fields, indicate stronger relationships with industry variables, specifically creative services and local amenities.

However, we are surprised by the lack of relationship with ethnic and disadvantaged neighborhoods at the state level and, in particular, the negative relationships that arts organizations have with these neighborhoods in a city as diverse as New York City. For one, case study research suggests that artists often locate in more ethnically and socio-economically diverse neighborhoods seeking cheaper rents and diverse locales. Furthermore, given the growing literature on the community development role of the arts, we assumed community and advocacy art organizations in particular (which we defined as organizations pursuing artistic activities for positive social and community outcomes), would reveal some association with ethnic or disadvantaged neighborhoods. However, these organizations, like the others, avoid ethnic neighborhoods and lack any association with disadvantaged neighborhoods. Still, many of these case studies focus on unique neighborhood outcomes catalyzed by the location choices of individual artists or organizations and do not study the general location patterns. With that said, there are many studies documenting the benefits of participatory and community-based arts in marginalized communities (Borrup 2006; Carr and Servon 2009; Chapple and Jackson, 2010; Grodach 2010a; Grodach 2011; Stern and Seifert 2010). Our study suggests that, while arts organizations may certainly engage in community building activities, the vast majority of organizations do not directly locate in and serve these neighborhoods. There are, of course, exceptions. Clearly, some arts organizations do locate in economically disadvantaged neighborhoods, specifically in the Bronx, and many ethnic neighborhoods in Queens.

The New York City neighborhood analysis suggests that demographic and built environment attributes tend to matter more for organizations that are young, small, focused on local audiences and engage in performing arts. These organizations are more likely to locate in urbanized, young professional neighborhoods. Case studies analyzing arts-driven neighborhood change tend to study such small, community-based arts organizations. Considering these studies suggest local arts can revitalize economically disadvantaged communities, it is concerning that these same organizations reflect the strongest, negative associations with ethnic and disadvantaged communities. In other words, organizations that may potentially have the capacity to stabilize struggling communities are not locating in neighborhoods where they might have the most impact.

The location decisions for all other organizations, whether by discipline, expense size, organizational age or constituency, appear to be driven by the presence of certain industries. Creative services, such as architecture, graphic design and photography, matter most to museums, galleries and media arts. However, these relationships are strongest for larger, more established organizations suggesting that these arts may attract these industries. Surprisingly, community and advocacy organizations reflects a strong, positive relationship with advanced services such as finance and media. Again, we had expected these organizations to locate in more disadvantaged or ethnic neighborhoods, considering many of these organizations are focused on local, community development goals. However, it appears as though organizations funding and supporting the arts prefer locations close to other financial services.

*RQ3: What New York neighborhoods possess the capacity to support additional arts activity?*

We find that industry presence, specifically creative services and neighborhood amenities, are key predictors of all types of arts organizations, especially the visual and media arts. Performing arts tend also prefer urbanized, young professional neighborhoods. These findings suggest that certain New York City neighborhoods may be able to support additional arts activities.

Several disadvantaged neighborhoods on the west side of the Bronx are already home to multiple arts organizations. These neighborhoods score fairly high on the urban and young professional factors and moderately for creative services. The Bronx neighborhoods near Fordham University, especially Mount Hope, are especially well suited for nurturing emergent arts organizations as well as the Soundview-Bruckner neighborhood in the south-central section of the Bronx. However, they tend to lack the presence of creative economy industries, which may explain why artistic presence is limited. These types of neighborhoods could benefit from additional arts, especially visual and media arts activities, as we have found these disciplines could serve as attractors to creative services.

Brooklyn neighborhoods ranking high in urbanized and young professional factors are already home to many arts organizations. However, significant amenities, creative services and high levels of urbanization may create conducive conditions for further artistic activities in the southern edge of Brooklyn, such as Brighton Beach, Seagate and Bath Beach. The southeastern area of Brooklyn, such as Carnarsie, Georgetown, Starret City, Flatlands and Rugby Ramsen Village, all have moderate creative services and amenities, which may provide favorable contexts for certain disciplines such as media and visual arts.

In Queens, we see most arts organizations clustering in the highly urbanized and young professional neighborhoods to the west, closest to Manhattan, and to a lesser extent, on the east side, in the young professional neighborhoods home to significant local amenities. However, several central Queens neighborhoods to the east and west of Flushing Meadows Park could also support additional arts activities. The Forest Hills neighborhood and surrounding areas have moderate to high levels of creative services as well as amenities, which may be especially attractive to media and visual arts.

Staten Island is home to a cluster of arts organizations, mainly located in the northeastern section connected to Manhattan by ferry. These neighborhoods are the most urbanized and have higher shares of young adults, compared to the rest of the borough. Although not characterized by high levels of urbanization as seen in other boroughs, Staten Island is home to several neighborhoods high in creative services and advanced services, especially on the South Shore. As a result, strategies supporting museums and galleries or community and advocacy groups may have the greatest potential for success in these areas.

In conclusion, this research can inform future arts and community development policy. By identifying key neighborhood attributes associated with distinct types of arts organizations, we can better identify potential sites conducive to nurturing additional artistic activity. Additionally, although further research is needed to determine the motives underlying location decisions, this study should prompt attention into targeting how to engage organizations in neighborhoods that are underserved in the arts.

## 5 TECHNICAL APPENDIX

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### 5.1 APPENDIX A: ORGANIZATION CLASSIFICATION

The CDP includes New York state arts and culture organizational data spanning 2002 to 2012. However, not all organizations have complete data for all reporting years. We rely on data from 2010 because this year contains the highest number of organizations represented within the database (1,782). Two organizations, Creative Time and Municipal Art Society, reported data twice for 2010 as they changed fiscal year-end reporting dates from the first half of the year to second half of the year. As a result, the first listing includes a full year of data ending sometime within the first half of 2010. The second listing only includes partial year data, starting with the day after the previous fiscal year end date to the end of the new fiscal year end date. We retain the data associated with the earlier fiscal year end date as these entries contain complete data for 12 months bringing the total sample to 1,780. We remove 208 of these organizations from the data set because they are located in zip codes that are either outside of metropolitan areas or do not have complete demographic and industry data relevant to the study.

Next, we classify organizations by disciplinary activity. The organization's main activity is captured by several variables. The first is the National Taxonomy of Exempt Entities (NTEE) code, used by the IRS and the National Center for Charitable Statistics. The first letter of the NTEE code refers to the organization's major field (i.e. Arts and Culture, Education, Human Services). The first numeric digit refers to the organization's main purpose. The second digit provides its specialization. The CDP includes an additional taxonomy specific to arts and culture: the National Standard for Arts Information Exchange Project (NISIP) used by the National Endowment for the Arts. The NISIP categorizes organizations by type of Institution, discipline and specialty. After reviewing the data, we determine that some organizations are missing NTEE or NISIP codes, that the NTEE and NISIP categorizations often contradict one another, and that some of the codes are too vague to determine the organization's purpose. For example,

the CDP contains data on arts programs nested within non-art organizations. As a result, such programs may have a non-art NTEE code based on the umbrella organization and an artistic NISP code based on the program. Other organizations appear to lack any artistic focus. The figure below shows the crosswalk that was produced as a result of this process.

**Table A1: NTEE Code, NISP Classification, NISP Institution Disciplinary Crosswalk**

| <b>NTEE Code</b>  | <b>NISP Classification</b>           | <b>NISP Institution</b>  |
|---|--------------------------------------|--|
| <b>Museums, Art Centers, and Exhibition Spaces (museums with art component)</b> |                                      |  |
| A40 - Visual Arts   | Visual Arts                          | Gallery/Exhibit Space  |
| A51 - Art Museums   | Design Arts<br>Crafts<br>Photography | Art Museum   |
| <b>Performing Arts</b>  |                                      |  |
| A60 - Performing Arts   | Dance                                | Performance Facility   |
| A61 - Performing Arts Centers   | Music                                | Performance Facility   |
| A62 - Dance   | Opera/Musical Theatre                | Performing Group<br>Performing Group -<br>Community  |
| A63 - Ballet  | Theatre                              | Performing Group -<br>Youth  |
| A65 - Theater   |                                      |  |
| A68 - Music   |                                      |  |
| A69 - Symphony Orchestras   |                                      |  |
| A6A - Opera   |                                      |  |
| A6B - Singing and Choral Groups   |                                      |  |
| A6E - Performing Arts Schools   |                                      |  |
| <b>Media Arts</b>   |                                      |  |
| A30 - Media and Communications  | Media Arts                           | Cinema   |
| A31 - Film and Video  |                                      | Independent Press  |
| A32 - Television  |                                      | Literary Magazine  |
| A33 - Printing and Publishing   |                                      | Media - Periodical   |
| A34 - Radio   |                                      | Media - Radio<br>Media - TV  |
| <b>Community and Advocacy</b>   |                                      |  |
| A23 - Cultural and Ethnic Awareness   |                                      | Community Service Org<br>Cultural Series<br>Organization<br>Social Service<br>Organization |
| A24 - Folk Arts   |                                      | Folklife/Traditional Arts  |
| B20 - Elementary and Secondary Schools  |                                      |  |
| B24 - Primary and Elementary Schools  |                                      |  |
| B90 - Educational Services  |                                      |  |
| B92 - Remedial Reading and Encouragement  |                                      |  |
| B99 - Education NEC   |                                      |  |
| C01 - Alliances and Advocacy  |                                      |  |
| C50 - Environmental Beautification  |                                      |  |
| G19 - Support NEC   |                                      |  |

- G41 - Eye Diseases, Blindness and Vision
- G43 - Heart and Circulatory System Disease
- J20 - Employment Preparation and Procurement
- N20 - Camps
- N31 - Community Recreational Centers
- N52 - Fairs
- O20 - Youth Centers and Clubs
- O50 - Youth Development Programs
- P20 - Human Services
- P27 - Young Men’s or Women’s Association
- P28 - Neighborhood Centers
- P30 - Children and Youth Services
- P40 - Family Services
- P80 - Centers to Support the Independence of Specific Populations
- P88 - LGBT Centers
- Q20 - Promotion of International Understanding
- Q21 - International Cultural Exchange
- R05 - Research Institutes and Public Policy
- S20 - Community and Neighborhood Development
- S50 - Nonprofit Management
- S99 - Community Improvement and Capacity Building
- T22 - Private Independent Foundations
- T90 - Named Trusts NEC
- X20 - Christianity
- X21 - Protestant
- X30 - Judaism

**Cross-disciplinary codes requiring additional research**

|   |                   |                          |
|---|-------------------|--------------------------|
| A01 - Alliances and Advocacy                    | Multidisciplinary | Arts Council/Agency      |
| A02 - Management and Technical Assistance       | Interdisciplinary | Art Service Organization |
| A03 - Professional Societies and Associations   | Literature        |                          |
| A11 - Single Organization Support               |                   |                          |
| A12 - Fund Raising and Fund Distribution        |                   |                          |
| A19 - Support NEC                               |                   |                          |
| A20 - Arts and Culture                          |                   |                          |
| A50 – Museums                                   |                   |                          |
| A25 - Arts Education                            |                   |                          |
| A26 - Arts and Humanities Councils and Agencies |                   |                          |
| A70 - Humanities                                |                   |                          |
| A99 - Arts, Culture and Humanities NEC          |                   |                          |

The crosswalk does not incorporate all NTEE categories, however. The following NTEE categories cross multiple NISP disciplines and institutions: A01 - Alliances and Advocacy; A02 - Management and Technical Assistance; A03 - Professional Societies and Associations; A11 - Single Organization Support; A12 - Fund Raising and Fund Distribution; A19 - Support NEC; A20 - Arts and Culture; A50 – Museums; A99 - Arts, Culture and Humanities NEC. These codes often pertain to organizations that do not produce art, but rather service artists and organizations in distinct disciplines. There are several ways of categorizing these organizations. For example, in



a separate study using CDP data from California, Markusen et al (2011) combined the first six of these NTEE codes along with “A26 - Arts Education” to create an “Arts and Cultural Support” category, which crossed disciplinary lines. However, we suggest that advocacy, professional and support groups operating within a specific artistic field should be grouped with other organizations working in that discipline. Furthermore, the Art Education category often includes both multidisciplinary youth development programs and professional art schools for specific art fields. Presumably, these organizations have very different missions, audiences and interests.

Using the crosswalk as a guide, we code organizations according to the five categories. If an organization is classified by at least one NTEE and one NISP code assigned to that category, the organization is coded according to the crosswalk. However, we conduct additional research such as consulting the organization’s mission statement and programming to determine its classification if the NTEE and NISP codes conflict, if the organization is categorized using one of the catchall categories discussed above, or if the organization’s name suggests an alternative classification, we conduct additional research such as consulting the organization’s mission statement and programming to determine its classification. We find this additional research is especially necessary for categorizing ethnic and community based organizations conducting artistic activities. To differentiate between the artistic disciplinary codes and the “Community and Advocacy” category, we use the criteria of whether the organization’s mission is to produce, support or disseminate art or if it uses artistic activities as a *means* towards another goal such as community empowerment, cultural understanding, or youth development. All three members of the research team conducted separate analyses of the data set using the same methodology to improve reliability. When discrepancies between coders occurred, the research team conducted additional research, such as consulting the organization’s website, in order to arrive at a unanimous decision on categorizations. The non-arts category contains 228 organizations that do not have an arts-centered focus. Examples of organizations in this category include the Bronx Zoo, Brooklyn Children’s Museum and New York Hall of Science. After categorization, we remove these non-art organizations, leaving a sample size of 1,346 organizations. A full list of organizations by category is available upon request.

Finally, some organizations in the CDP were not immediately identified using the ArcGIS address locator. For these organizations, we attempted to first standardize the address in the database. When necessary, we retrieved organizational data from the organization’s website or other online source through websites such as <http://www.guidestar.org/>, <http://www.idealists.org/> and Google Maps. Although some organizations conduct all business activities from one address, many organizations use multiple spaces and places for diverse uses such as administration, rehearsal, exhibition and performance. For such cases, we use the administrative office address for the geocoding process in order to maintain consistency with the CDP database. This decision, however, does raise questions regarding how we infer the location decisions of arts organizations as desired neighborhood attributes may depend on specific organizational activities. In total we successfully geocoded 1,336 (99%) out of the 1,346 organizations in our sample.

## 5.2 APPENDIX B: NEIGHBORHOOD DEMOGRAPHIC MEASURES

The following table lists the neighborhood demographic measures included in our principal component analysis. All of the variables come from the 2007-2011 American Community Survey conducted by the US Census.

**Table B1: Neighborhood Demographic Measures**

| Urban                | Diversity               | Affluence                | Disadvantage              | Young Professional            |
|----------------------|-------------------------|--------------------------|---------------------------|-------------------------------|
| Pop. Density         | % Black                 | Avg. household income    | % Unemployed              | % Work at home                |
| Avg. household size  | % Hispanic              | Avg. rent                | % In poverty              | % Work in place of residence  |
| Avg. rooms           | % Foreign-born          | % BA degree or higher    | % Single parent household | % Not in labor force          |
| % Rental housing     | % Non-English speakers  | % Management Occupations |                           | % Unmarried                   |
| % Multi-unit housing | % Non-family households |                          |                           | % 25 to 34 year old residents |
| % Housing pre-1950   |                         |                          |                           |                               |
| % Walk to work       |                         |                          |                           |                               |

## 5.3 APPENDIX C: INDUSTRY MEASURES

The following table lists the industry measures included in our principal component analysis. All of the variables come from the 2010 Zip Code Business Patterns produced by the US Census. This dataset uses the North American Industry Classification System (NAICS) to categorize industries and contains establishment, employment and other financial data. Several of the measures are composites of more than one NAICS code. These were created by summing the total number of establishments for each NAICS code listed in the composite. We made an effort to avoid overlap between independent and dependent variables in future regression models. Specifically, we do not include industries with obvious overlap with the CDP data such as museums, theatre companies and several others. We also reviewed the correlation coefficients of the total number of organizations and industry establishments and removed industries with coefficients over 0.80. We feel that the industries are sufficiently different from the CDP arts organizations to warrant their inclusion in the factor analysis and regression model.

**Table C1: Industry Measures**

| Cultural Services                                       | Finance   | High Tech   | Media   | Neighborhood Amenities  |
|---|---|---|---|---|
|   |   |   | 511110 Newspaper Publishers                   | 311811<br>445110<br>445120  |
| 541310 Architectural Services                           | 522291<br>522292 Nondepository Credit Intermediation*<br>522293<br>522294                             | 541511<br>541512<br>541513<br>541519                      | Computer Systems Design and Related Services* | Grocery Stores, Specialty Food Stores, and Bakeries*<br>445220<br>445230<br>445291<br>445292                                      |
| 541320 Landscape Architectural Services                 | 523110 Securities and<br>523120 Commodity Contracts<br>523130 Intermediation and<br>523140 Brokerage* | 511210 Software Publishers                                | 511120 Periodical Publishers                  | 448110<br>448120<br>448130<br>448140<br>448150<br>448190  |
| 541410 Interior Design Services                         | 523910<br>523920 Financial Investment Activities*<br>523930<br>525990                                 | 541690 Other Scientific and Technical Consulting Services | 515111 Radio Networks                         | 448210 Shoe Stores  |
| 541420 Industrial Design Services                       | 551111 Management of Companies and Enterprises*<br>551112   |   | 515112 Radio Stations                         | 451211 Book Stores  |
| 541430 Graphic Design Services                          | 813211 Grantmaking Institutions   |   | 515120 Television Broadcasting                | 451212 News Dealers and News Stands   |
| 541490 Other Specialized Design Services                |   |   | 519110 News Syndicates                        | 451220 Prerecorded Tape, Compact Disc, and Record Stores  |
| 541922 Commercial Photography                           |   |   | 541810 Advertising Agencies                   | 722110 Full Service Restaurants   |
| 611310 Colleges, Universities, and Professional Schools |   |   | 541820 PR Agencies                            | 722213 Snack and Nonalcoholic Beverage Bars<br><br>722410 Drinking Places (Alcoholic Beverages)<br>813110 Religious Organizations |

\*variable is a composite of multiple NAICS

## 5.4 APPENDIX D: PRINCIPAL COMPONENT ANALYSIS

We conducted separate principal component analyses on the groups of variables listed above in Appendix B and Appendix C for the state level and the NYC level. Each principal component analysis included a normalized varimax rotation. Moreover, we examined the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for all analyses. At the state level, the KMO was .84 and .93 for the neighborhood demographic and for the industry measures analysis respectively. At the NYC level, the KMO was .82 and .93 for the neighborhood demographic and for the industry measures analysis respectively. All of these KMOs indicate a strong degree of sampling adequacy.

Tables D1 and D2 present the factor loadings resulting from the neighborhood demographics analysis for New York State and New York City and Tables D3 and D4 present the results from the industry analysis. Factor loadings can range from -1 to 1 and indicate the weight given to a specific variable when computing a factor score. Thus, a positive loading close to 1 indicates that the variable contributes strongly to the factor score, a negative loading close to -1 indicates the variable will significantly reduce the factor score and a score close to 0 indicates

the variable does not have much effect at all on the factor score. The four factors produced from the neighborhood demographic analysis explain 78% in NYC and 75% in NY State of the variation in the variables included. The three factors produced from the industry analysis explain 89% in NYC and 70% in NY State of the variation in the variables included.

**Table D1: New York State Factor Loadings of Neighborhood Demographics Variables**

| Variable                     | Disadvantaged | Urbanized Ethnic | Urbanized Young Professional | Affluent |
|------------------------------|---------------|------------------|------------------------------|----------|
| Population density           | 0.0704        | 0.6864           | 0.3345                       | 0.2728   |
| Avg. household size          | 0.0757        | 0.3174           | -0.8163                      | -0.2842  |
| Avg. rooms                   | -0.1894       | -0.6297          | -0.6937                      | -0.1018  |
| % Rental housing             | 0.433         | 0.6417           | 0.5932                       | -0.0002  |
| % Multi-unit housing         | 0.2674        | 0.7122           | 0.5924                       | 0.09     |
| % Housing pre-1950           | 0.2286        | 0.3428           | 0.4573                       | -0.1835  |
| % Walk to work               | 0.0297        | 0.2931           | 0.6462                       | 0.4354   |
| % Black                      | 0.7036        | 0.1536           | 0.0722                       | -0.005   |
| % Hispanic                   | 0.2928        | 0.7476           | -0.0939                      | -0.2464  |
| % Foreign-born               | -0.0159       | 0.9158           | -0.0793                      | -0.0732  |
| % Non-English speakers       | 0.0974        | 0.9253           | -0.0887                      | -0.1295  |
| % Non-family households      | 0.0725        | 0.0086           | 0.9402                       | 0.2192   |
| Avg. household income        | -0.6122       | -0.0122          | -0.1245                      | 0.6651   |
| Avg. rent                    | -0.5955       | 0.3653           | 0.0446                       | 0.5525   |
| % BA degree or higher        | -0.6163       | -0.0248          | 0.186                        | 0.699    |
| % Management Occupations     | -0.6537       | -0.1239          | 0.0916                       | 0.6184   |
| % Unemployed                 | 0.7859        | 0.2629           | 0.1449                       | -0.1535  |
| % In poverty                 | 0.8348        | 0.256            | 0.31                         | -0.1424  |
| % Single parent household    | 0.7706        | 0.2467           | -0.0643                      | -0.3373  |
| % Public Assistance          | 0.801         | 0.2321           | 0.0954                       | -0.2534  |
| % Work at home               | -0.1236       | -0.1098          | 0.099                        | 0.7483   |
| % Work in place of residence | 0.2487        | 0.7216           | 0.4337                       | 0.0694   |
| % Not in labor force         | 0.7475        | -0.1868          | -0.2768                      | 0.0563   |
| % Age 25 to 34               | -0.1728       | 0.5109           | 0.7541                       | -0.0144  |
| % Unmarried                  | -0.0922       | -0.0651          | 0.8008                       | -0.2231  |
| Variance                     | 23%           | 22%              | 21%                          | 12%      |

**Table D2: New York City Factor Loadings of Neighborhood Demographic Variables**

| Variable             | Disadvantaged | Urbanized | Ethnic  | Young Professional |
|----------------------|---------------|-----------|---------|--------------------|
| Population density   | 0.1614        | 0.7236    | 0.0742  | 0.1947             |
| Avg. household size  | 0.5463        | -0.5686   | 0.2995  | 0.0504             |
| Avg. rooms           | -0.1105       | -0.9156   | -0.0911 | -0.16              |
| % Rental housing     | 0.544         | 0.772     | 0.1402  | 0.1373             |
| % Multi-unit housing | 0.2631        | 0.8789    | 0.127   | 0.1402             |
| % Housing pre-1950   | 0.1463        | 0.2599    | 0.2273  | 0.6842             |

|                              |         |         |         |         |
|------------------------------|---------|---------|---------|---------|
| % Walk to work               | -0.2662 | 0.7418  | 0.0308  | 0.0444  |
| % Black                      | 0.6043  | -0.2145 | -0.5622 | 0.1592  |
| % Hispanic                   | 0.6766  | 0.2392  | 0.3208  | 0.1173  |
| % Foreign-born               | 0.1391  | -0.1874 | 0.739   | 0.3096  |
| % Non-English speakers       | 0.2872  | 0.1823  | 0.8935  | -0.0076 |
| % Non-family households      | -0.3816 | 0.7961  | -0.2672 | 0.1746  |
| Avg. household income        | -0.8129 | 0.128   | -0.3249 | 0.2168  |
| Avg. rent                    | -0.8104 | 0.1692  | -0.1316 | 0.3492  |
| % BA degree or higher        | -0.8306 | 0.3999  | -0.2356 | 0.1615  |
| % Management occupations     | -0.7405 | 0.2531  | -0.1848 | -0.0494 |
| % Unemployed                 | 0.7861  | 0.1243  | -0.0561 | 0.0025  |
| % In poverty                 | 0.821   | 0.436   | 0.0898  | -0.1158 |
| % Single parent household    | 0.9063  | 0.191   | -0.2316 | 0.0338  |
| % Public assistance          | 0.8691  | 0.3193  | 0.1217  | -0.1499 |
| % Work at home               | -0.334  | 0.6642  | -0.2098 | 0.242   |
| % Work in place of residence | 0.146   | 0.5124  | 0.0439  | -0.0055 |
| % Not in labor force         | 0.4449  | -0.064  | 0.2075  | -0.7372 |
| Age 25-34                    | -0.0975 | 0.1714  | 0.1634  | 0.6721  |
| % Unmarried                  | -0.0986 | 0.5609  | -0.3147 | 0.5153  |
| % Variance                   | 31%     | 25%     | 10%     | 9%      |

**Table D3: New York State Factor Loadings of Neighborhood Industry Variables**

| Variable  | Advanced Services | Creative Economy | Neighborhood Amenities |
|---|-------------------|------------------|------------------------|
| Architectural Services                                  | 0.2065            | 0.918            | 0.228                  |
| Landscape Architectural Services                        | -0.0094           | 0.6472           | 0.0902                 |
| Interior Design Services                                | 0.4458            | 0.6334           | 0.353                  |
| Industrial Design Services                              | 0.0855            | 0.7765           | 0.3089                 |
| Graphic Design Services                                 | 0.1942            | 0.9038           | 0.26                   |
| Other Specialized Design Services                       | 0.2393            | 0.7176           | 0.1051                 |
| Commercial Photography                                  | 0.1109            | 0.8865           | 0.2684                 |
| Colleges, Universities and Professional Schools         | 0.1146            | 0.2875           | 0.551                  |
| Nondepository Credit Intermediation                     | 0.849             | 0.1398           | 0.1396                 |
| Securities/Commodity Contracts Intermediation/Brokerage | 0.914             | 0.0027           | 0.1001                 |
| Financial Investment Activities                         | 0.9102            | -0.0577          | 0.1344                 |
| Management of Companies and Enterprises                 | 0.9212            | 0.2062           | 0.1824                 |
| Grantmaking Institutions                                | 0.8697            | 0.2316           | 0.2575                 |
| Computer Systems Design and Related Services            | 0.5009            | 0.7056           | 0.2792                 |
| Software Publishers                                     | 0.5792            | 0.6599           | 0.0657                 |
| Other Scientific and Technical Consulting Services      | 0.6304            | 0.5236           | 0.2612                 |
| Newspaper Publishers                                    | 0.5392            | 0.4891           | 0.2091                 |
| Periodical Publishers                                   | 0.6154            | 0.6776           | 0.1097                 |

|  |         |        |        |
|--|---------|--------|--------|
| Radio Networks                                     | 0.485   | 0.2291 | 0.1435 |
| Radio Stations                                     | 0.5365  | 0.1455 | 0.1297 |
| Television Broadcasting                            | 0.712   | 0.1954 | 0.1337 |
| News Syndicates                                    | 0.7944  | 0.306  | 0.0664 |
| Advertising Agencies                               | 0.4769  | 0.7842 | 0.2058 |
| PR Agencies  | 0.7172  | 0.599  | 0.2134 |
| Grocery Stores, Specialty Food Stores and Bakeries | -0.0217 | 0.0341 | 0.8009 |
| Clothing Stores                                    | 0.2724  | 0.4516 | 0.6733 |
| Shoe Stores  | 0.2689  | 0.2139 | 0.7581 |
| Book Stores  | 0.2385  | 0.448  | 0.5903 |
| News Dealers and News Stands                       | 0.6374  | 0.5143 | 0.3009 |
| Prerecorded Tape, Compact Disc and Record Stores   | 0.2022  | 0.5726 | 0.3976 |
| Full Service Restaurants                           | 0.3967  | 0.4646 | 0.663  |
| Snack and Nonalcoholic Beverage Bars               | 0.4615  | 0.452  | 0.6424 |
| Drinking Places (Alcoholic Beverages)              | 0.1766  | 0.447  | 0.5357 |
| Religious Organizations                            | 0.1117  | 0.0199 | 0.7334 |
| % Variance   | 28%     | 27%    | 15%    |

**Table D4: New York City Factor Loadings of Neighborhood Industry Variables**

| Variable  | Creative Economy | Advanced Services | Neighborhood Amenities |
|---|------------------|-------------------|------------------------|
| Architectural Services                                  | 0.9122           | 0.3096            | 0.2168                 |
| Landscape Architectural Services                        | 0.9258           | 0.2105            | 0.1372                 |
| Interior Design Services                                | 0.7162           | 0.4526            | 0.3585                 |
| Industrial Design Services                              | 0.9375           | 0.1379            | 0.2326                 |
| Graphic Design Services                                 | 0.9164           | 0.2999            | 0.2139                 |
| Other Specialized Design Services                       | 0.8033           | 0.4944            | 0.1566                 |
| Commercial Photography                                  | 0.9463           | 0.2253            | 0.1924                 |
| Colleges, Universities and Professional Schools         | 0.5976           | 0.2413            | 0.5367                 |
| Nondepository Credit Intermediation                     | 0.2434           | 0.9095            | 0.2383                 |
| Securities/Commodity Contracts Intermediation/Brokerage | 0.0888           | 0.8797            | 0.1931                 |
| Financial Investment Activities                         | 0.0533           | 0.9361            | 0.2006                 |
| Management of Companies and Enterprises                 | 0.2931           | 0.9169            | 0.2025                 |
| Grantmaking Institutions                                | 0.3115           | 0.8716            | 0.2878                 |
| Computer Systems Design and Related Services            | 0.6723           | 0.6313            | 0.2675                 |
| Software Publishers                                     | 0.653            | 0.7293            | 0.1522                 |
| Other Scientific and Technical Consulting Services      | 0.5436           | 0.733             | 0.3417                 |
| Newspaper Publishers                                    | 0.5375           | 0.7004            | 0.2413                 |
| Periodical Publishers                                   | 0.6404           | 0.7175            | 0.1665                 |
| Radio Networks  | 0.3993           | 0.7124            | 0.1317                 |
| Radio Stations  | 0.3005           | 0.793             | 0.1411                 |
| Television Broadcasting                                 | 0.3228           | 0.8387            | 0.0967                 |
| News Syndicates   | 0.32             | 0.913             | 0.1502                 |

|  |        |        |        |
|--|--------|--------|--------|
| Advertising Agencies                               | 0.7971 | 0.5167 | 0.2154 |
| PR Agencies  | 0.6385 | 0.7172 | 0.221  |
| Grocery Stores, Specialty Food Stores and Bakeries | 0.2727 | 0.0914 | 0.8334 |
| Clothing Stores                                    | 0.6988 | 0.3588 | 0.5491 |
| Shoe Stores  | 0.5314 | 0.3993 | 0.6498 |
| Book Stores  | 0.7753 | 0.3289 | 0.4398 |
| News Dealers and News Stands                       | 0.5941 | 0.7273 | 0.258  |
| Prerecorded Tape, Compact Disc and Record Stores   | 0.8002 | 0.3358 | 0.2728 |
| Full Service Restaurants                           | 0.6576 | 0.4225 | 0.5299 |
| Snack and Nonalcoholic Beverage Bars               | 0.6044 | 0.533  | 0.5217 |
| Drinking Places (Alcoholic Beverages)              | 0.714  | 0.2754 | 0.4172 |
| Religious Organizations                            | 0.2157 | 0.3146 | 0.776  |
| Variance   | 39%    | 37%    | 13%    |

## 5.5 APPENDIX E: NEW YORK STATE AND NEW YORK CITY SAMPLES

We focus on two geographic levels in our statistical analyses. The smallest spatial scale available for industry data is at the zip code level. As a result, we define neighborhoods for the New York state analysis using zip code boundaries and aggregate organizational data to the zip code level. Although not a perfect measure of ‘neighborhood’, the geographical boundaries are consistent. For the analysis of New York City arts organizations, we decide to use Neighborhood Tabulation Areas (NTAs). Since these boundaries are based on local conventions, they better approximate the distinctive social and economic contexts of various neighborhoods and are an improvement on zip code geographies.

As NTAs are based on census tracts, we use tract-level demographic data to provide greater accuracy. However, industry data are not available at the census tract level. As such, we layered zip code and census tract geographies in ArcGIS to determine how much land area in each zip code is located within each census tract. These ratios are then used as weights to apportion industry establishment numbers. Like any estimation method, this process is not without its concerns. The weighting method assumes industry establishments are evenly distributed throughout the zip code as opposed to clustered in certain areas. With that said, the results indicate significant relationships between organizational and industry data consistent with the literature. The regression results suggest that the estimation process was able to capture significant levels of neighborhood-level industry establishments.

There are that several observations with zero arts organizations. Only 15% of New York State zip codes are represented in the CDP database. This raised concerns regarding the database’s usefulness in identifying state-wide arts location trends. If we included all state zip codes in our analysis, most observations would have 0 arts organizations as the dependent variable, which would bias results. As such, we decide to focus only on zip codes with CDP organizational data in the state-wide analysis. Furthermore because the majority of CDP organizations are located

in the New York City area, we include basic regressions for zip codes located inside and outside of the metro area and focus our research efforts on neighborhoods inside New York City.

Because our samples are most likely not representative, there is an assessed likelihood of heteroskedasticity, meaning our error terms do not have constant variance which is one of the assumptions of multiple regression analysis. Although heteroskedasticity does not affect coefficients measuring the relationship between the independent and dependent variables, it may bias standard errors and cause faulty significance levels. As such, we estimate robust standard errors to correct for faulty measures of statistical significance for all results presented in this report (Huber 1967; White 1980).

## 6 REFERENCES

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- Bailey, Christopher, Steven Miles, and Peter Stark. 2004. "Culture Led Urban Regeneration and the Revitalisation of Identities in Newcastle, Gateshead, and the North East of England." *International Journal of Cultural Policy* 10 (1): 47–65.
- Blessi, Giorgio Tavano, Diane-Gabrielle Tremblay, Marco Sandri, and Thomas Pilati. 2012. "New Trajectories in Urban Regeneration Processes: Cultural Capital as Source of Human and Social Capital Accumulation - Evidence from the Case of Tohu in Montreal." *Cities* 29: 397–407.
- Brown-Saracino, Japonica. 2004. "Social Preservationists and the Quest for Authentic Community." *City & Community* 3 (2): 135–56.
- Borup, Tom. 2006. *The Creative Community Builder's Handbook: How to Transform Communities Using Local Assets, Art, and Culture*. Saint Paul, MN: Fieldstone Alliance.
- Cameron, Stuart, and Jon Coaffee. 2005. "Art, Gentrification and Regeneration—from Artist as Pioneer to Public Arts." *International Journal of Housing Policy* 5 (1): 39–58.
- Carr, James H., and Lisa J. Servon. 2009. "Vernacular Culture and Urban Economic Development: Thinking Outside the (Big) Box." *Journal of the American Planning Association* 75 (1): 28–40.
- Chapple, Karen, and Shannon Jackson. 2010. "Commentary: Arts, Neighborhoods, and Social Practices: Towards an Integrated Epistemology of Community Arts." *Journal of Planning Education and Research* 29 (4): 478–90.
- Chapple, Karen, Shannon Jackson, and Anne J. Martin. 2010. "Concentrating Creativity: The Planning of Formal and Informal Arts Districts." *City, Culture and Society* 1 (14): 225–34.
- Clark, Terry Nichols, ed. 2004. *The City as an Entertainment Machine*. Vol. 9. Oxford, UK: Elsevier.



- Currid, Elizabeth, and James Connolly. 2008. "Patterns of Knowledge: The Geography of Advanced Services and the Case of Art and Culture." *Annals of the Association of American Geographers* 98 (2): 414–34.
- Currid, Elizabeth, and Sarah Williams. 2010. "The Geography of Buzz: Art, Culture and the Social Milieu in Los Angeles and New York." *Journal of Economic Geography* 10 (3): 423–51.
- Florida, Richard. 2002. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Civitas Books.
- Florida, Richard, and Charlotta Mellander. 2010. "There Goes the Metro: How and Why Bohemians, Artists and Gays Affect Regional Housing Values." *Journal of Economic Geography* 10 (2): 167–188.
- Grodach, Carl. 2008. "Looking Beyond Image and Tourism: The Role of Flagship Cultural Projects in Local Arts Development." *Planning, Practice & Research* 23 (4): 495–516.
- . 2010a. "Art Spaces, Public Space, and the Link to Community Development." *Community Development Journal* 45 (4): 474–93.
- . 2010b. "Beyond Bilbao: Rethinking Flagship Cultural Development and Planning in Three California Cities." *Journal of Planning Education and Research* 29 (3): 353–66.
- . 2011. "Art Spaces in Community and Economic Development: Connections to Neighborhoods, Artists, and the Cultural Economy." *Journal of Planning Education and Research* 31 (1): 74–85.
- Grodach, Carl, Elizabeth Currid-Halkett, Nicole Foster, and James Murdoch III. 2014. "The Location Patterns of Artistic Clusters: A Metro- and Neighborhood-Level Analysis." *Urban Studies*, February. doi:10.1177/0042098013516523. <http://usj.sagepub.com/content/early/2014/02/07/0042098013516523>.
- Grodach, Carl, Nicole Foster, and James Murdoch III. 2014. "Gentrification and the Artistic Dividend: The Role of the Arts in Neighborhood Change." *Journal of the American Planning Association* (forthcoming).
- Huber, P.J. 1967. "The Behavior of Maximum Likelihood Estimators under Nonstandard Conditions." In *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability*, 1:221–33.
- Leslie, Deborah, and Norma M. Rantisi. 2006. "Governing the Design Economy in Montreal, Canada." *Urban Affairs Review* 41 (3): 309–37.
- Ley, David. 2003. "Artists, Aestheticisation and the Field of Gentrification." *Urban Studies* 40 (12): 2527–44.

- Lloyd, Richard. 2010. *Neo-Bohemia: Art and Commerce in the Postindustrial City*. 2nd ed. New York: Routledge.
- Markusen, Ann, and Anne Gadwa. 2010. "Arts and Culture in Urban or Regional Planning: A Review and Research Agenda." *Journal of Planning Education and Research* 29 (3): 379–91.
- Markusen, Ann, Sam Gilmore, Amanda Johnson, Titus Levi, and Andrea Martinez. 2006. "Crossover: How Artists Build Careers across Commercial, Nonprofit, and Community Work." [http://works.bepress.com/amanda\\_johnson1/3/](http://works.bepress.com/amanda_johnson1/3/).
- Markusen, Ann, and Greg Schrock. 2006. "The Artistic Dividend: Urban Artistic Specialisation and Economic Development Implications." *Urban Studies* 43 (10): 1661–1686.
- Markusen, Ann, Gregory H. Wassall, Douglas DeNatale, and Randy Cohen. 2008. "Defining the Creative Economy: Industry and Occupational Approaches." *Economic Development Quarterly* 22 (1): 24–45.
- Ryberg, Stephanie R., Mark Salling, and Gregory Soltis. 2013. "Putting Artists on the Map: The Geography of Artists in Cuyahoga County, Ohio." *Journal of Urban Affairs* 35 (1): 219–45.
- Sassen, Saskia. 2001. *The Global City: New York, London, Tokyo*. Princeton, N.J.: Princeton University Press.
- Scott, Allen J. 2004. "Cultural-Products Industries and Urban Economic Development." *Urban Affairs Review* 39 (4): 461–490.
- Stern, Mark J., and Susan C. Seifert. 2010. "Cultural Clusters: The Implications of Cultural Assets Agglomeration for Neighborhood Revitalization." *Journal of Planning Education and Research* 29 (3): 262–279.
- White, H. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity." *Econometrica* 48: 817–38.
- Zukin, Sharon. 1989. *Loft Living: Culture and Capital in Urban Change*. New Brunswick: Rutgers University Press.